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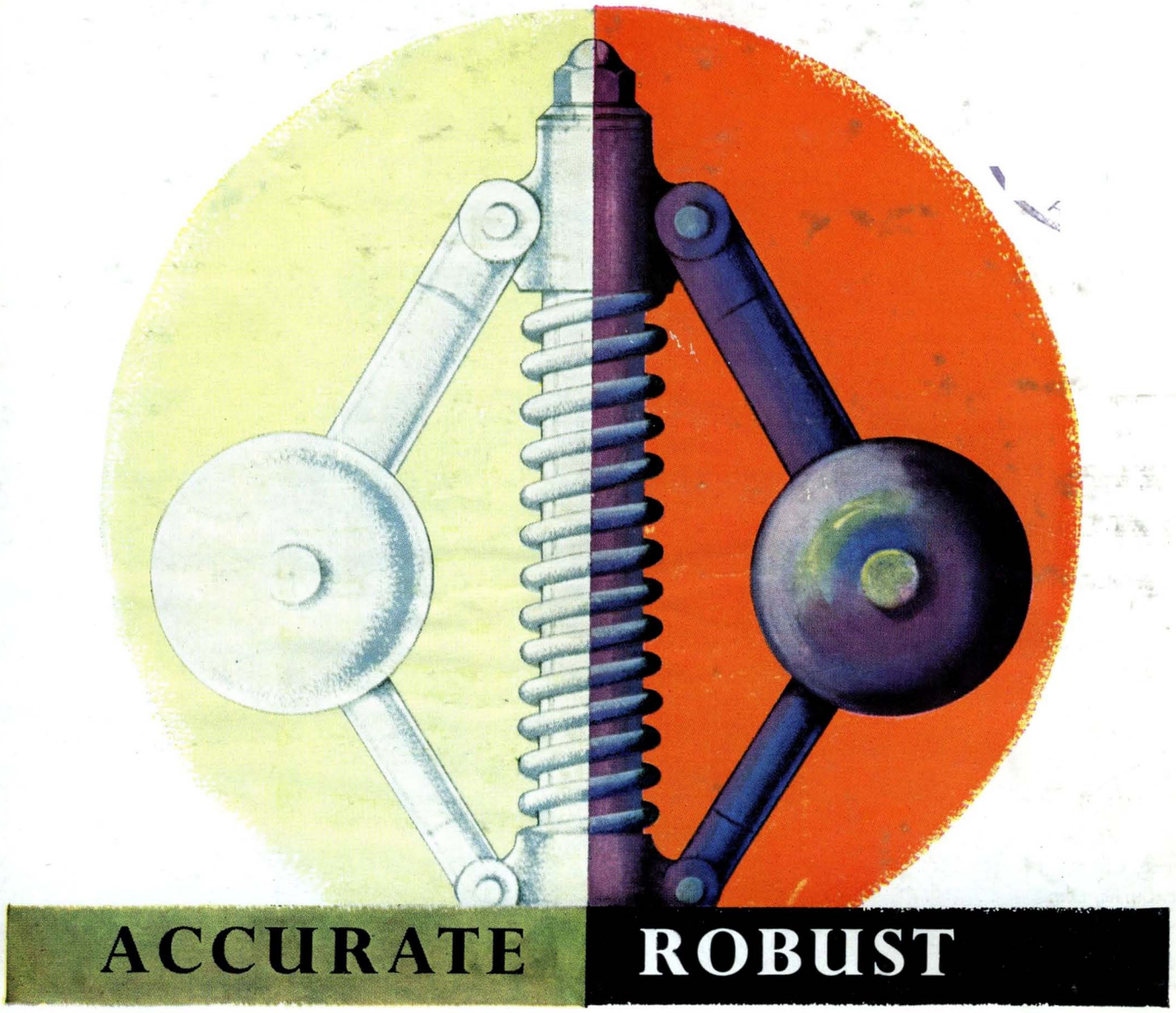
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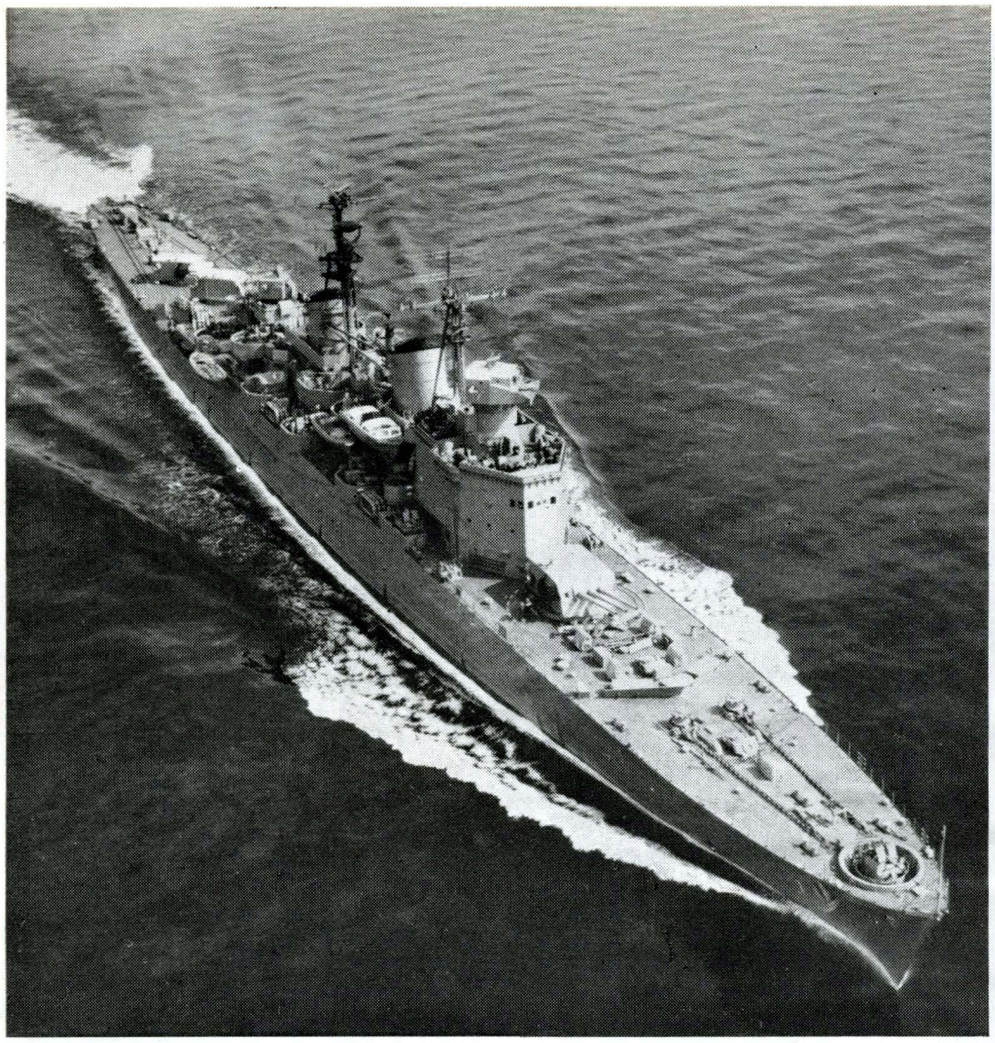
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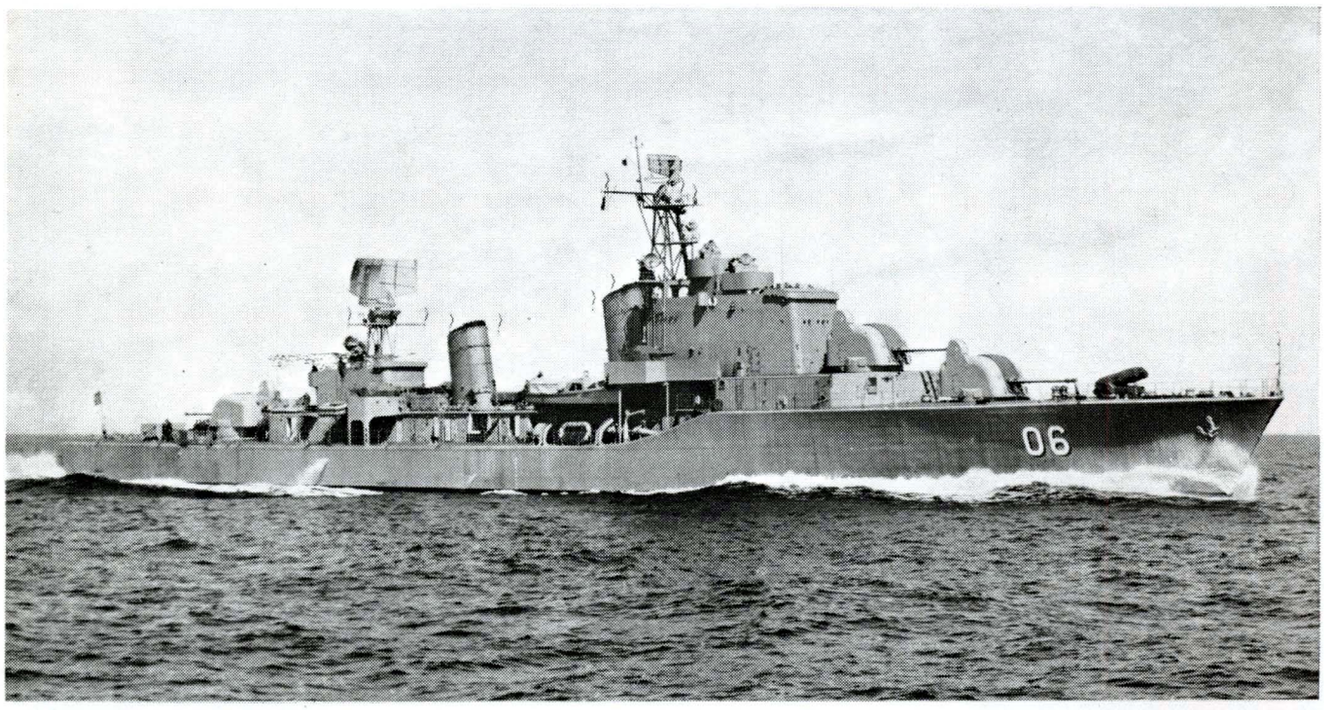
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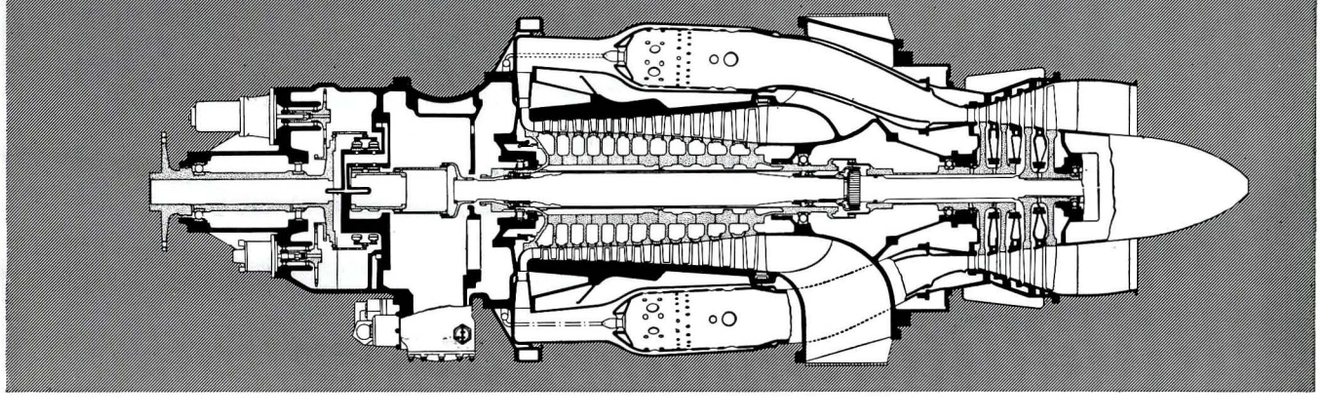
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Operating on diesel fuel, the Marine Proteus Mark 1250 delivers 3,500 hp for a weight of only 2,900 lb and a fuel consumption of 0.615 lb/shp/hr. The engine is also very compact (112-in long) and exceptionally reliable, for it went into service with an approved overhaul life of 2,000 hours!

Simple — Flexible — Quiet

Of basically simple design, the Marine Proteus has only two rotating assemblies and no reciprocating parts. It reaches full power within 60 seconds of starting and needs no preliminary warming up—or cooling down after stopping. And as the external cooling of the engine and exhaust pipe is effected by an induced flow of air, no water pumps are required.

The power/speed characteristics of the Marine Proteus are such that there is always an ample reserve of power for acceleration, and the maximum power of the engine can always be used.

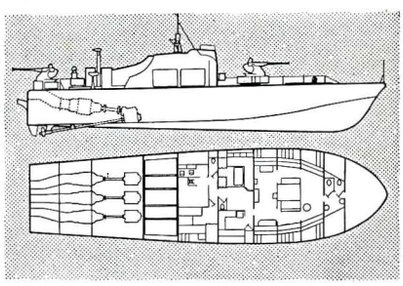
The air intake is fitted with a silencer and the exhaust velocity is less than half that of the aircraft version. The result is extremely quiet running. Since it has no reciprocating components, the Marine Proteus is also virtually free of vibration.

Development

The basic design of the engine has been proved by the 1,000,000 hours' airline service of its aero counterpart. In addition to this, the Marine Proteus has been under continuous and intensive development. It has successfully carried out 1,600 hours of test running, to schedules laid down by the British Admiralty. The latest version, the Mark 1270, delivers more power, has the same weight and a lower fuel consumption: 4,250 hp: 2,900 lb: 0.575 lb/shp/hr.

Applications

Three Marine Proteus Mark 1250, delivering a total of 10,500 hp, power the Royal Navy's "Brave" class fast patrol boats. These 96-ft boats built by Vosper Ltd., are the world's fastest naval vessels and are capable of a top speed of over 50 knots!



The Marine Proteus, however, is a suitable powerplant for many different types of vessels, from frigates and fast passenger craft to hydrofoil boats.

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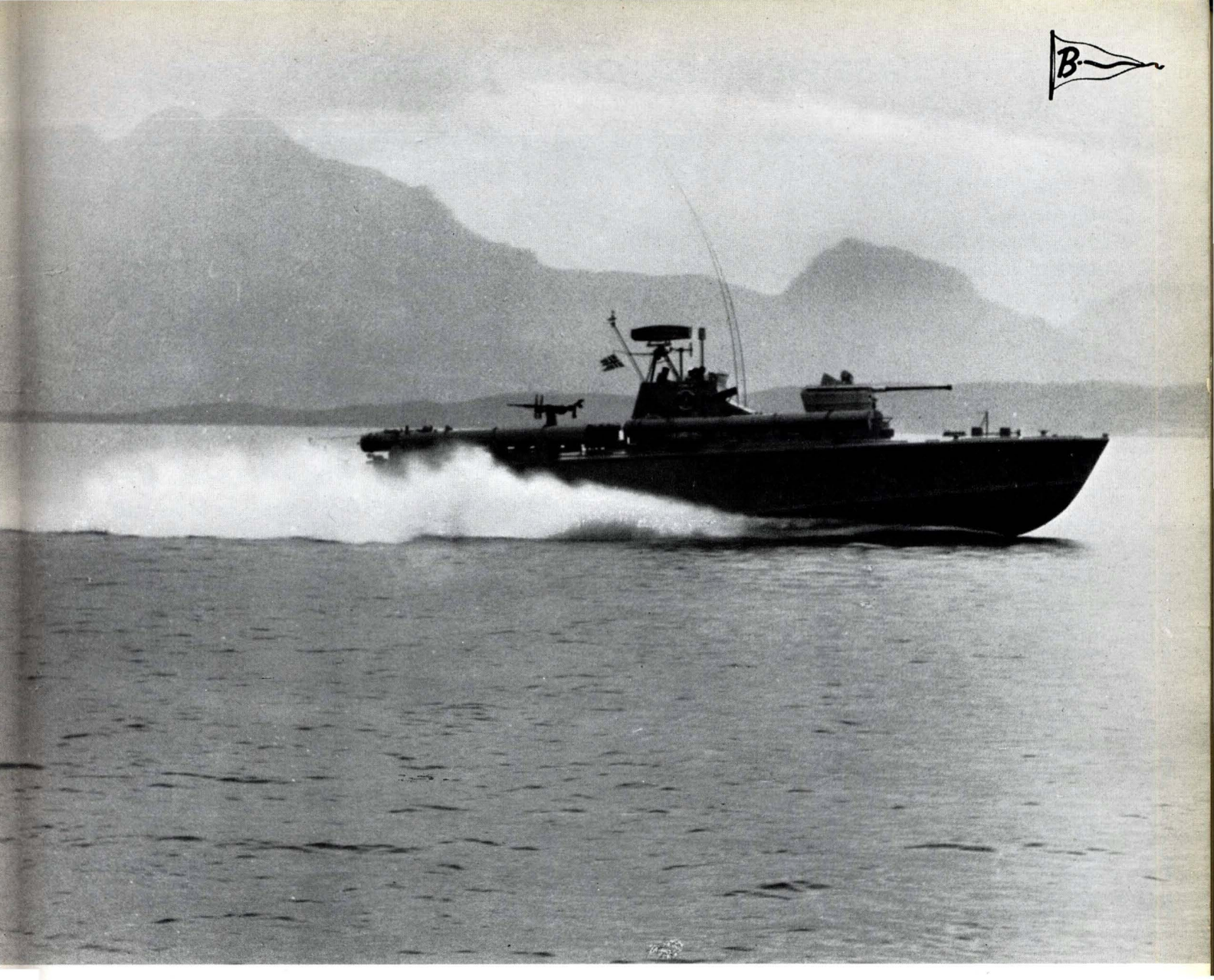
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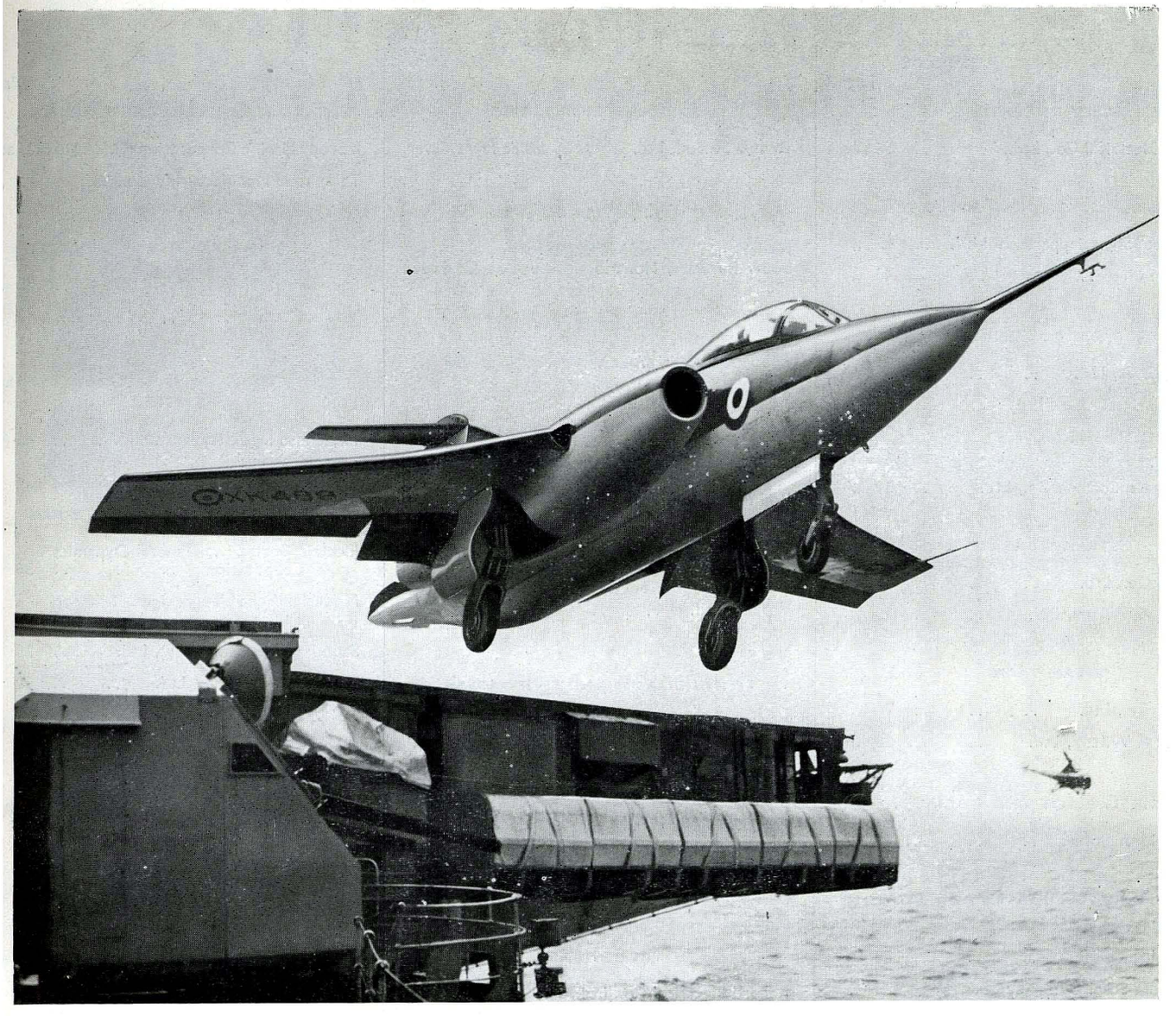
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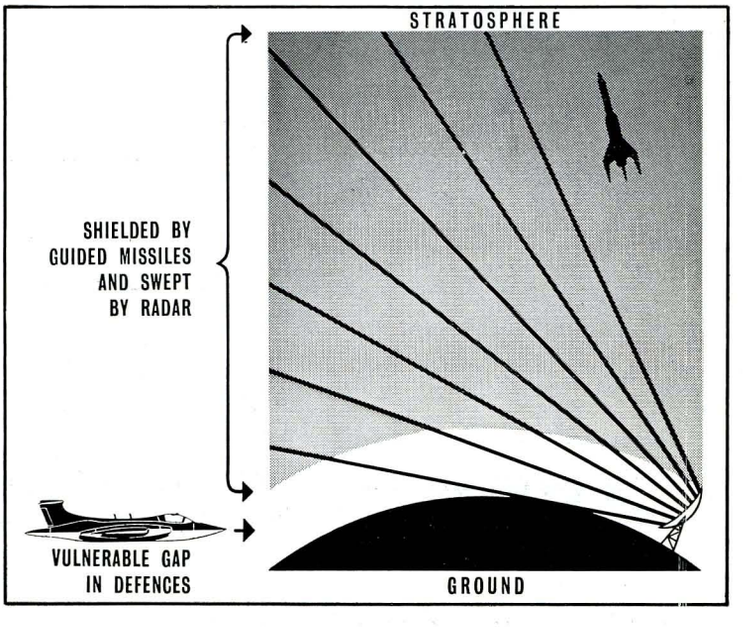


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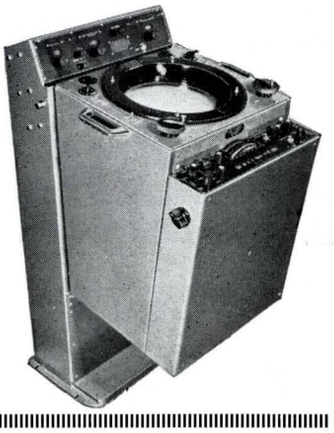


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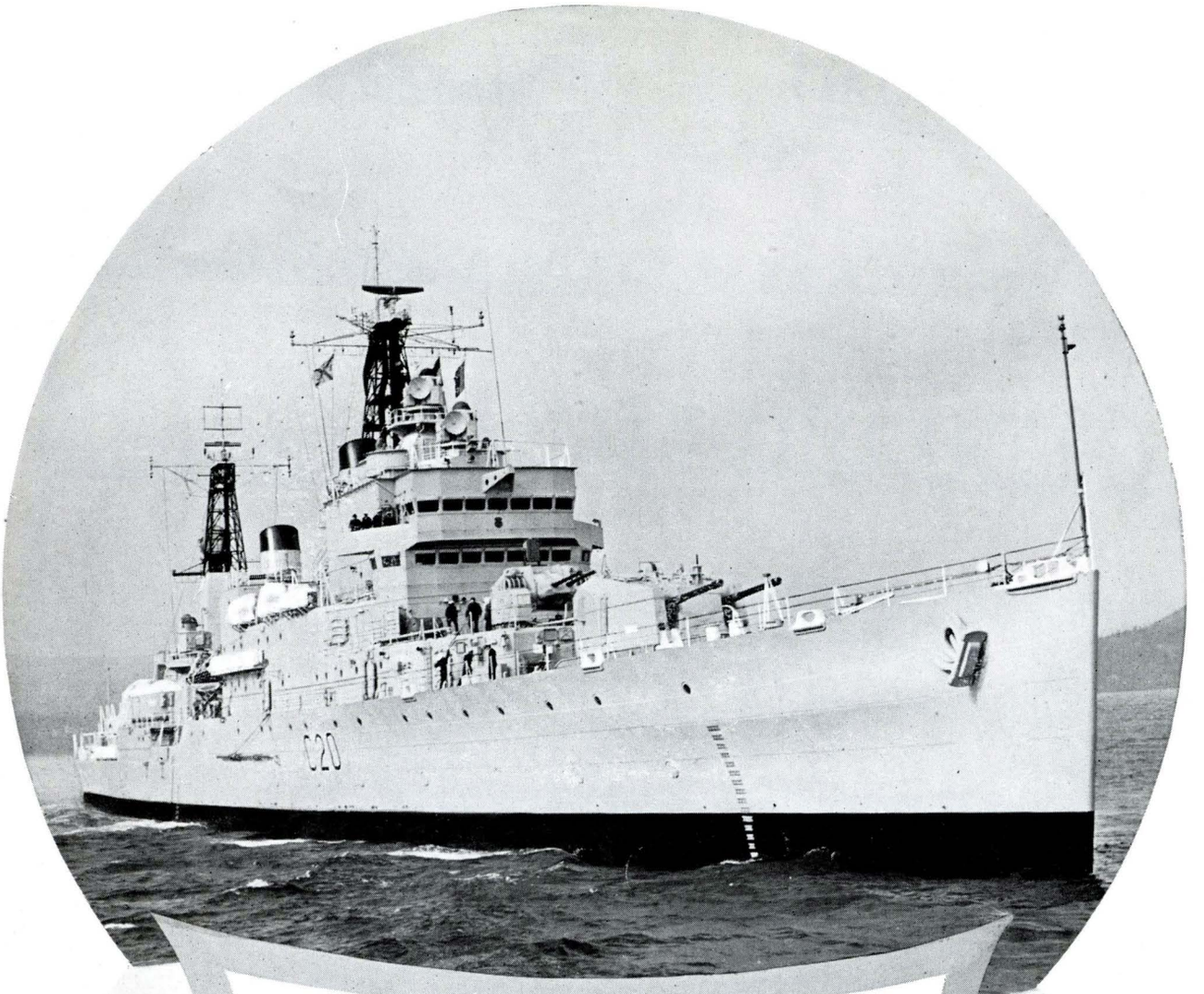
MacTaggart Scott & Co., Ltd. ... 31 ,,
Saunders-Roe (Anglesey), Ltd. .. 25 ,,
Vosper, Ltd. .. .. .. 39 & 40 ,,

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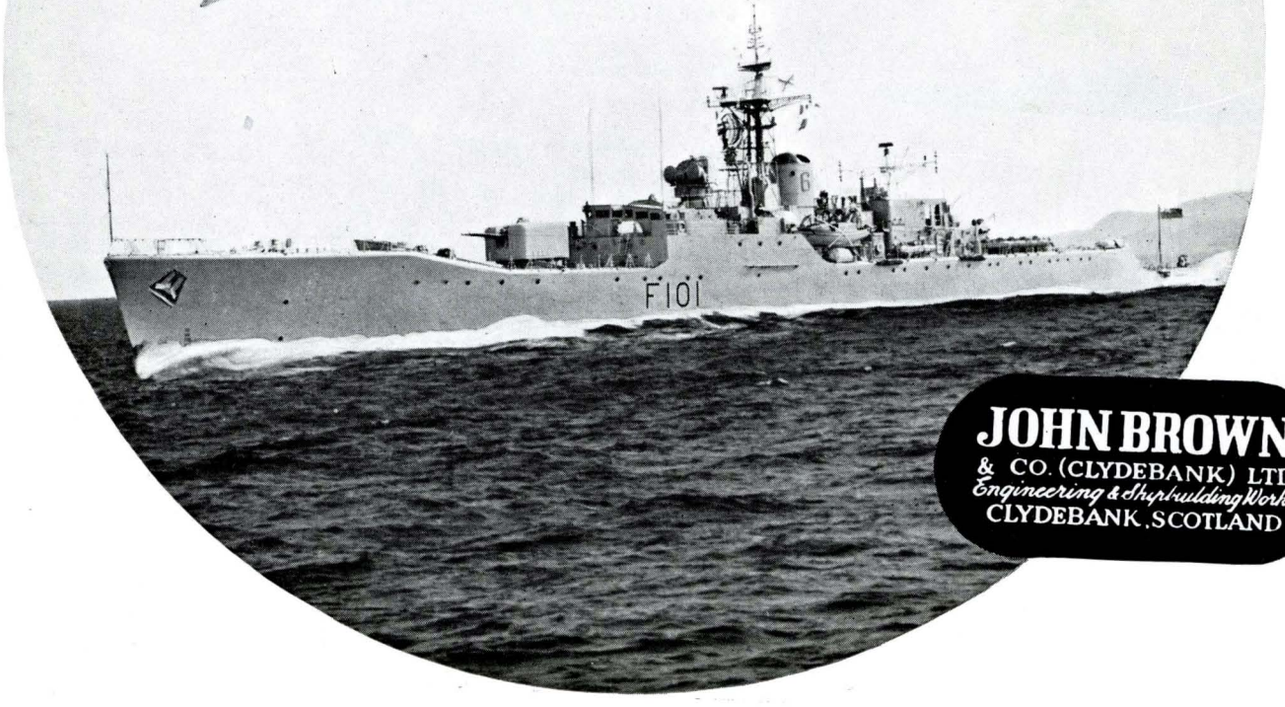
Nederlands Vereenigde Scheepsbouw Bureaux (Holland) .. .. 23 & 24 ,,

WINCHES

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H.M.S. "TIGER"
H.M.S. "YARMOUTH"



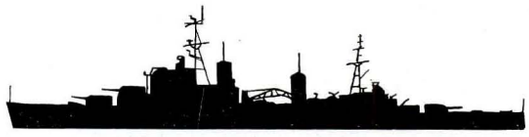
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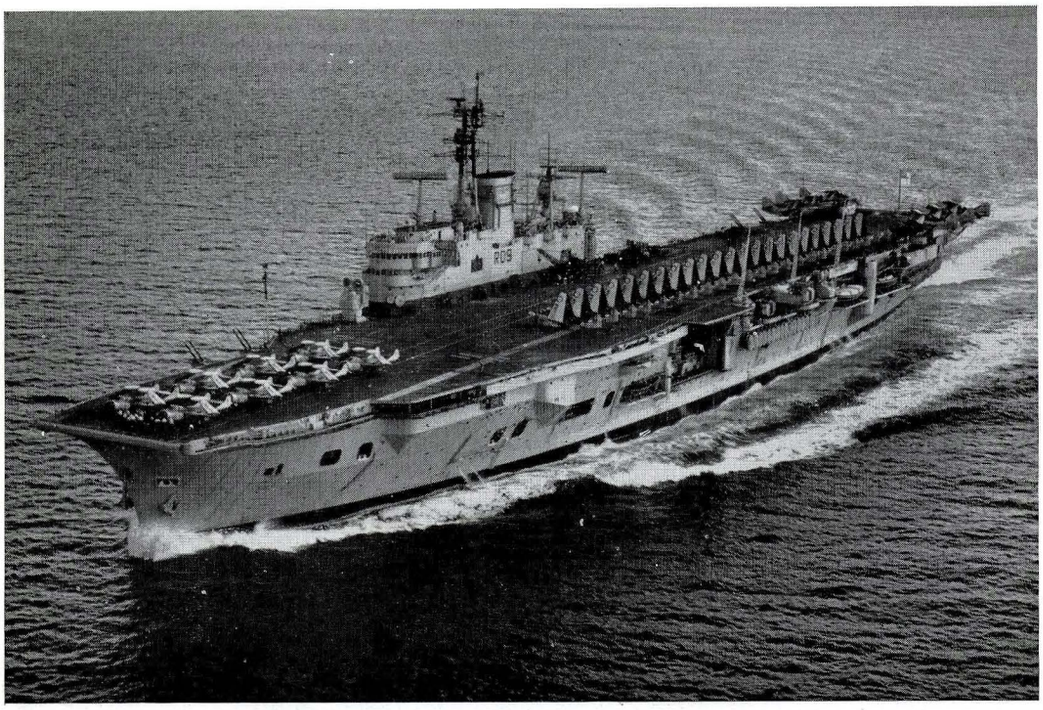
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H.M. AIRCRAFT CARRIER "ARK ROYAL," built by Messrs. Cammell Laird & Co. (Shipbuilders and Engineers) Ltd., Birkenhead, is fitted with "Kunifer 30" cupro-nickel tubes and naval brass plates in the main and auxiliary condensers — also "Kunifer 5" (copper-nickel-iron) tubes are used for sea water trunking and copper tubes for subsidiary services. (Crown copyright photograph)





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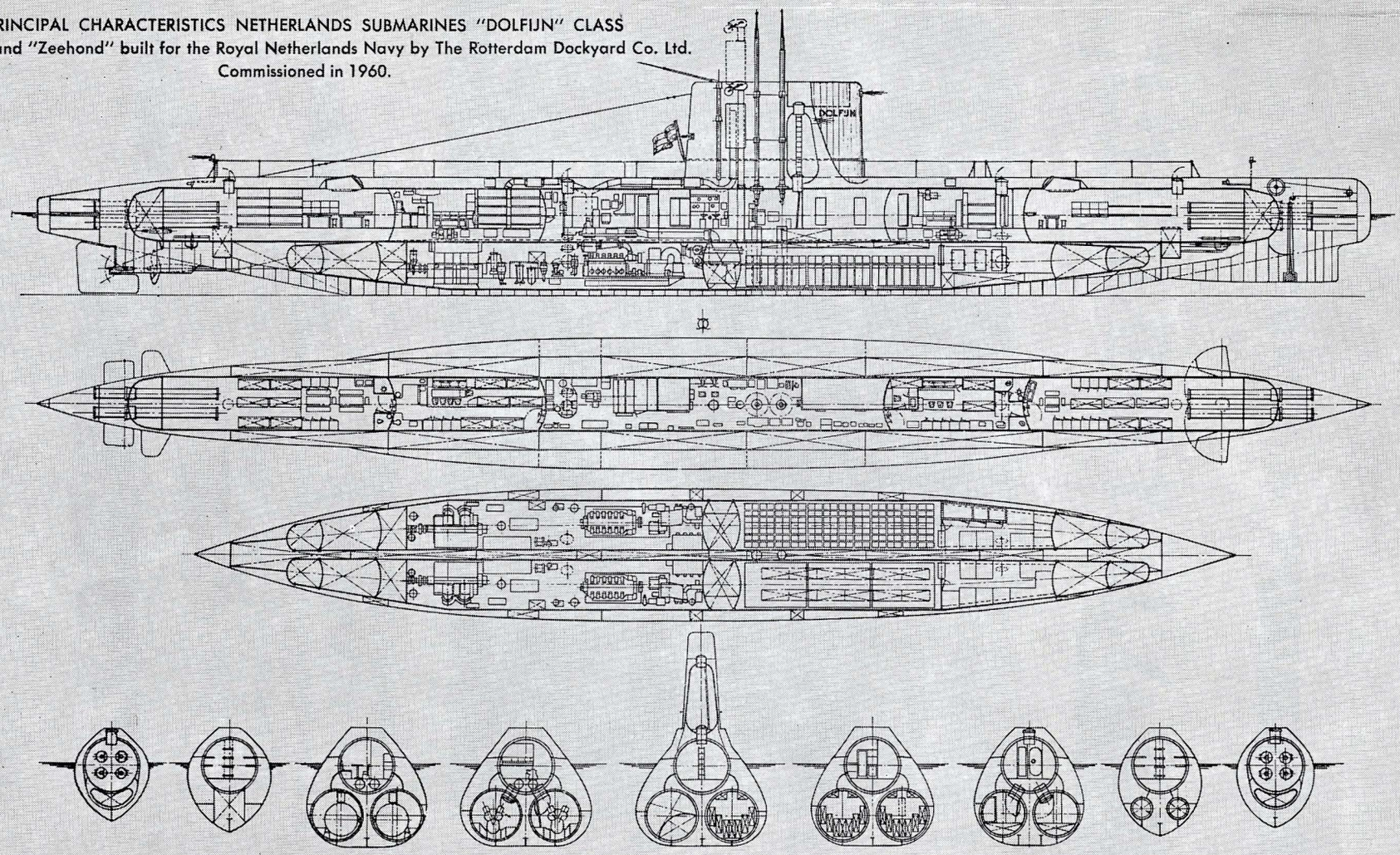
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PRINCIPAL CHARACTERISTICS NETHERLANDS SUBMARINES "DOLFIJN" CLASS

"Dolfijn" and "Zeehond" built for the Royal Netherlands Navy by The Rotterdam Dockyard Co. Ltd.
Commissioned in 1960.

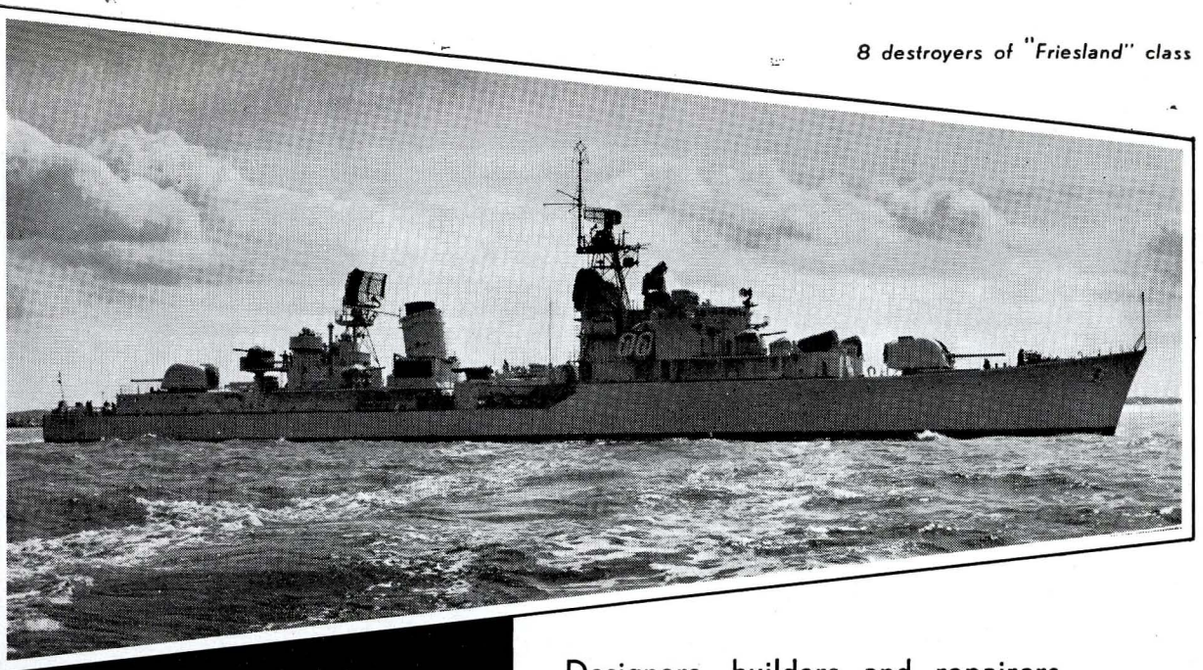


Length over all	79,50 m	=	260' 10"
Breadth moulded extreme	7,80 m	=	25' 7"
Depth to superstructure deck	7,00 m	=	22' 11"
Draught	4,85 m	=	15' 11"
Complement	63		

Displacement standard	1,168 t	=	1,150 ts
Displacement on surface	1,500 t	=	1,475 ts
Displacement submerged	1,825 t	=	1,795 ts
Torpedo tubes forward	4		
Torpedo tubes aft	4		

Diesel engines M.A.N. V6V 22/30	2 × 1,550 B.H.P. at 900 r.p.m.
Main electric motors	2 × 2,200 B.H.P. at 400 r.p.m.
Main batteries	2 × 168 cells

BUILDERS

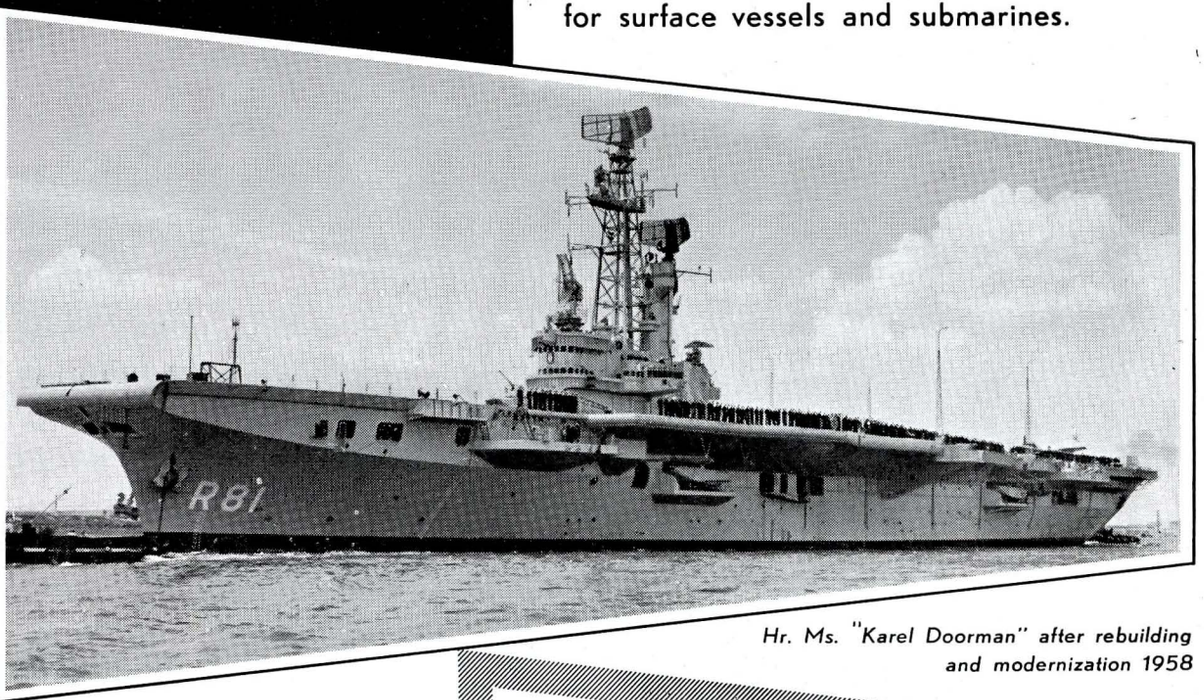


8 destroyers of "Friesland" class

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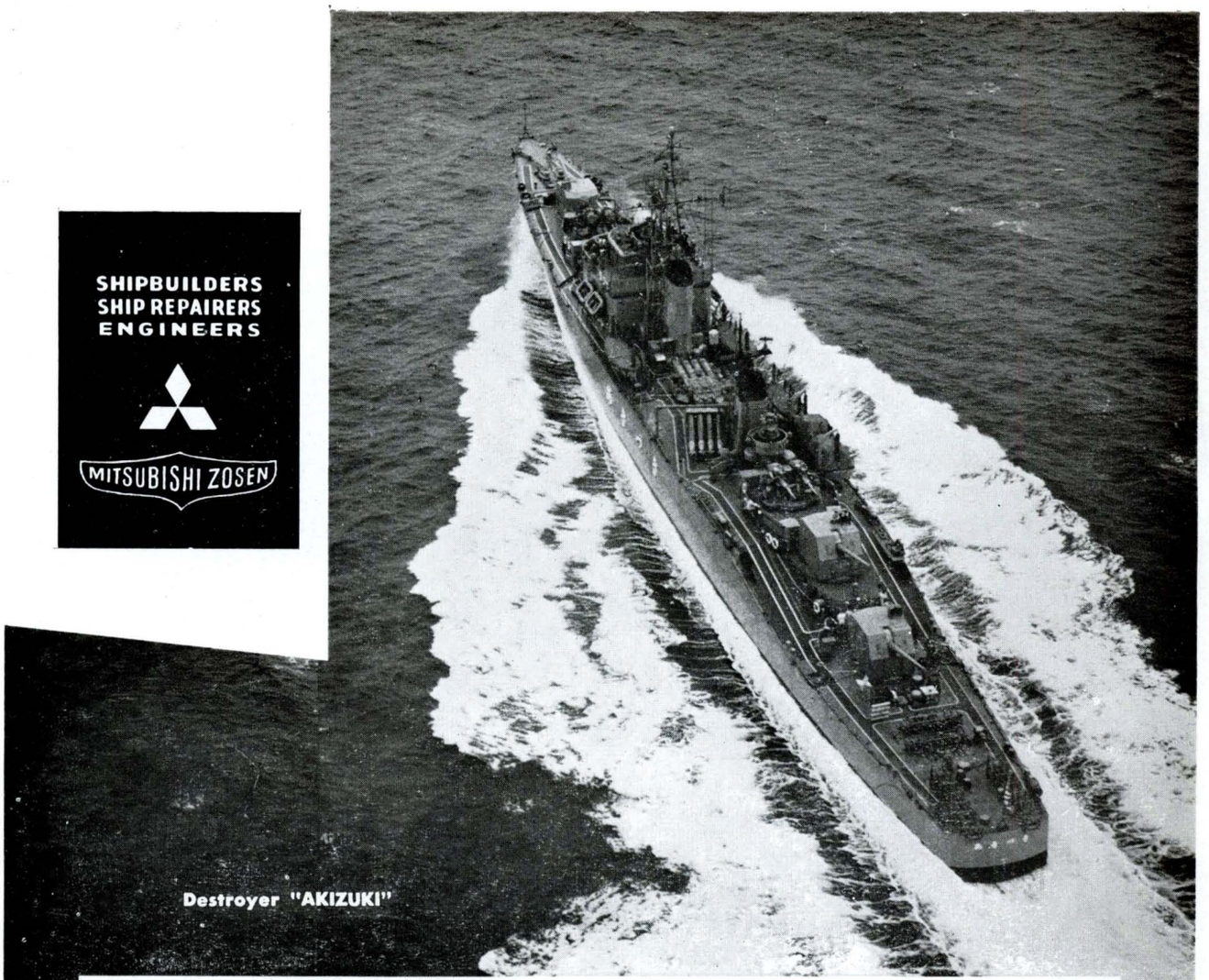
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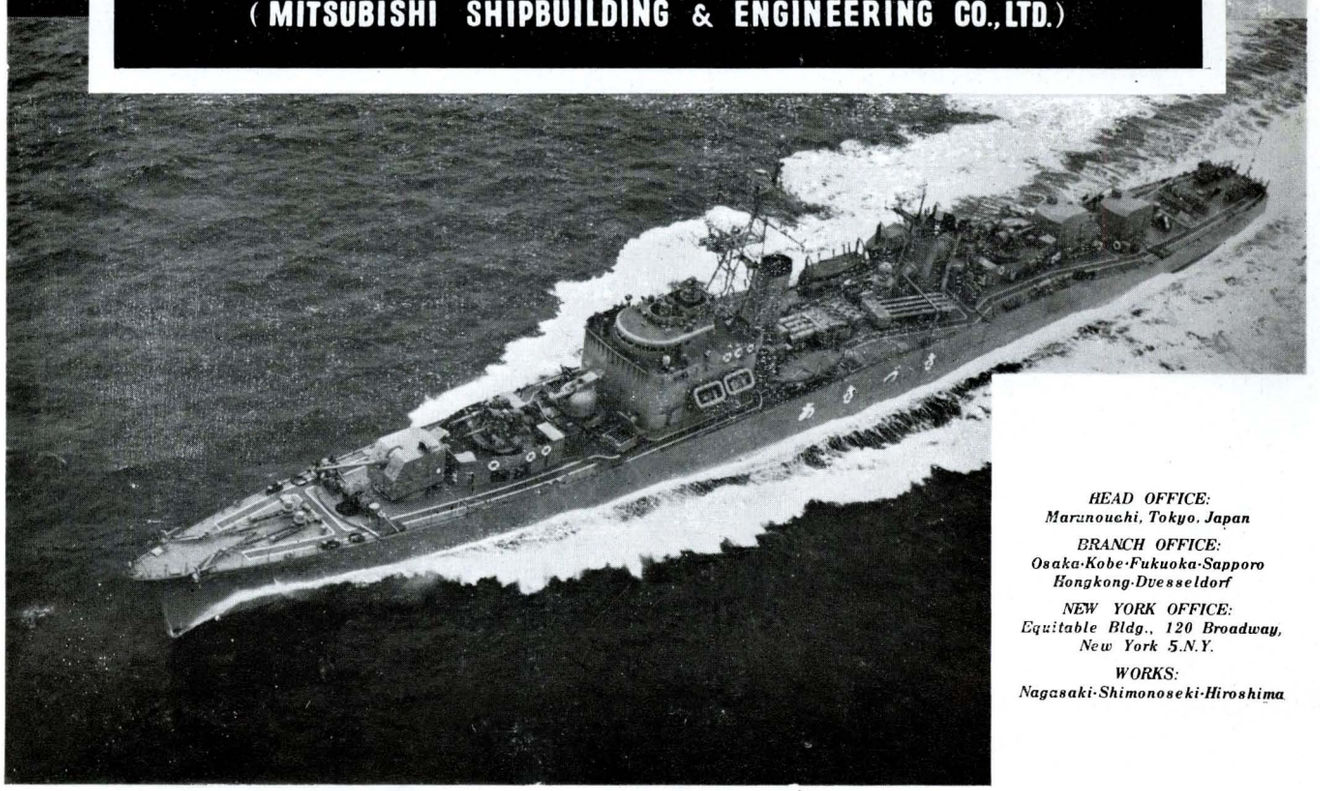
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Destroyer "AKIZUKI"

MITSUBISHI ZOSEN

(MITSUBISHI SHIPBUILDING & ENGINEERING CO., LTD.)



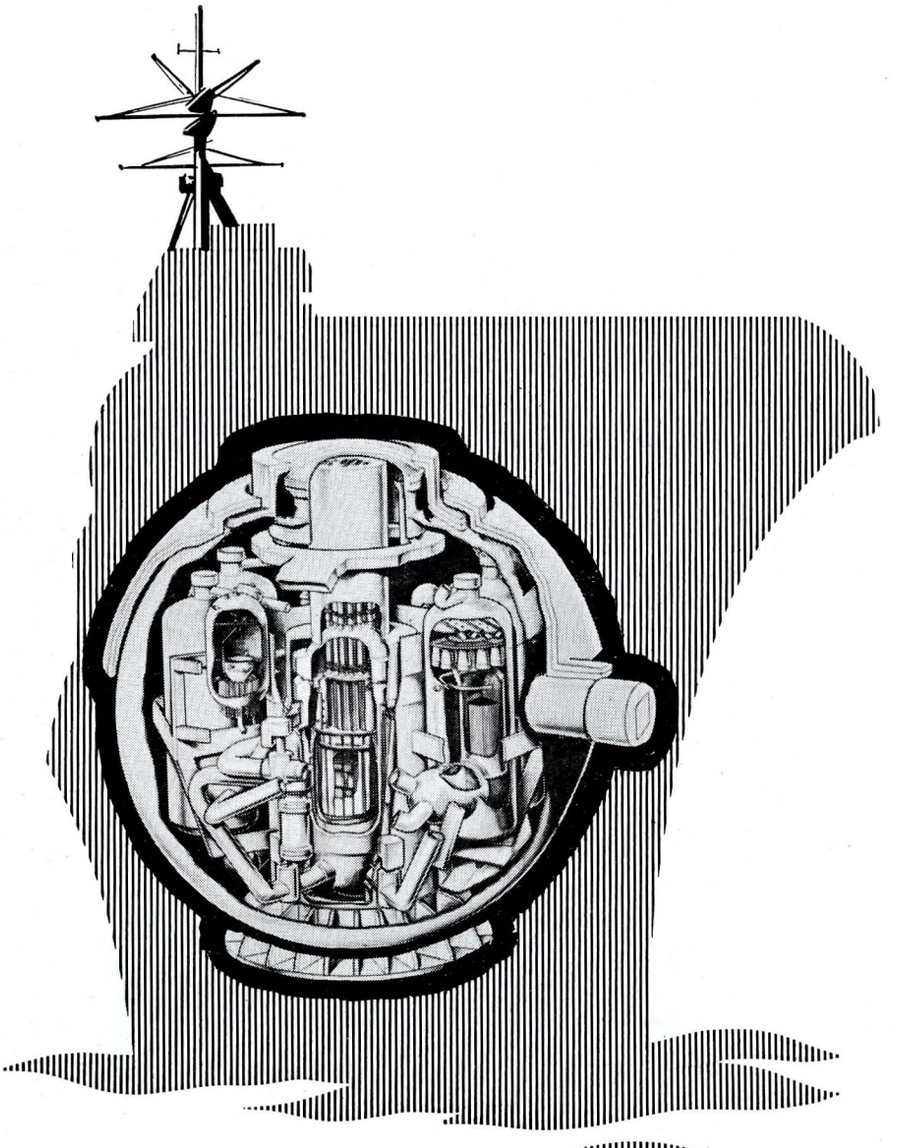
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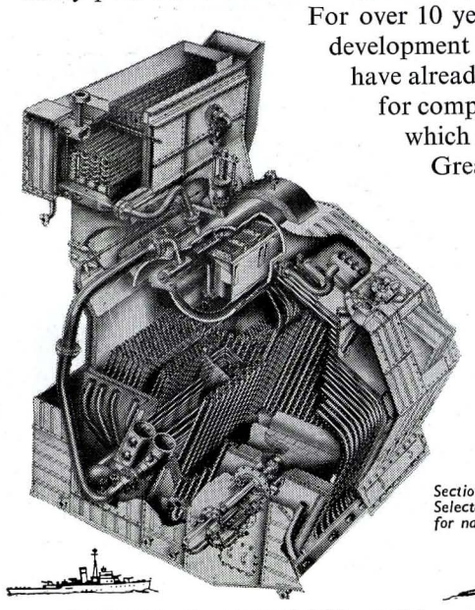
STEAM POWER FOR THE MODERN NAVY



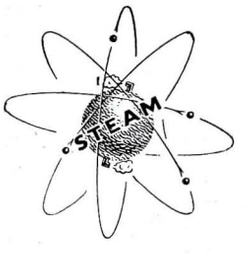
Inset (right) shows arrangement of a Babcock water-cooled type reactor and steam-raising plant for nuclear propulsion.
Thermal output: 180 M.W.
Equivalent shaft horsepower: approx. 65,000.
Evaporation: 616,000 lb./hr.
Fuel: Slightly enriched uranium dioxide.

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Over three-quarters of the vessels in the British post-war naval programme have Babcock boilers, of new, proved high-performance designs—as also have many post-war vessels of foreign navies, e.g. Holland, Sweden and Yugoslavia.

For over 10 years, Babcock & Wilcox have pioneered development in *nuclear* ship propulsion and they have already put forward fully practical designs for complete nuclear steam-raising plants which they would manufacture wholly in Great Britain, to be at sea within 3 years



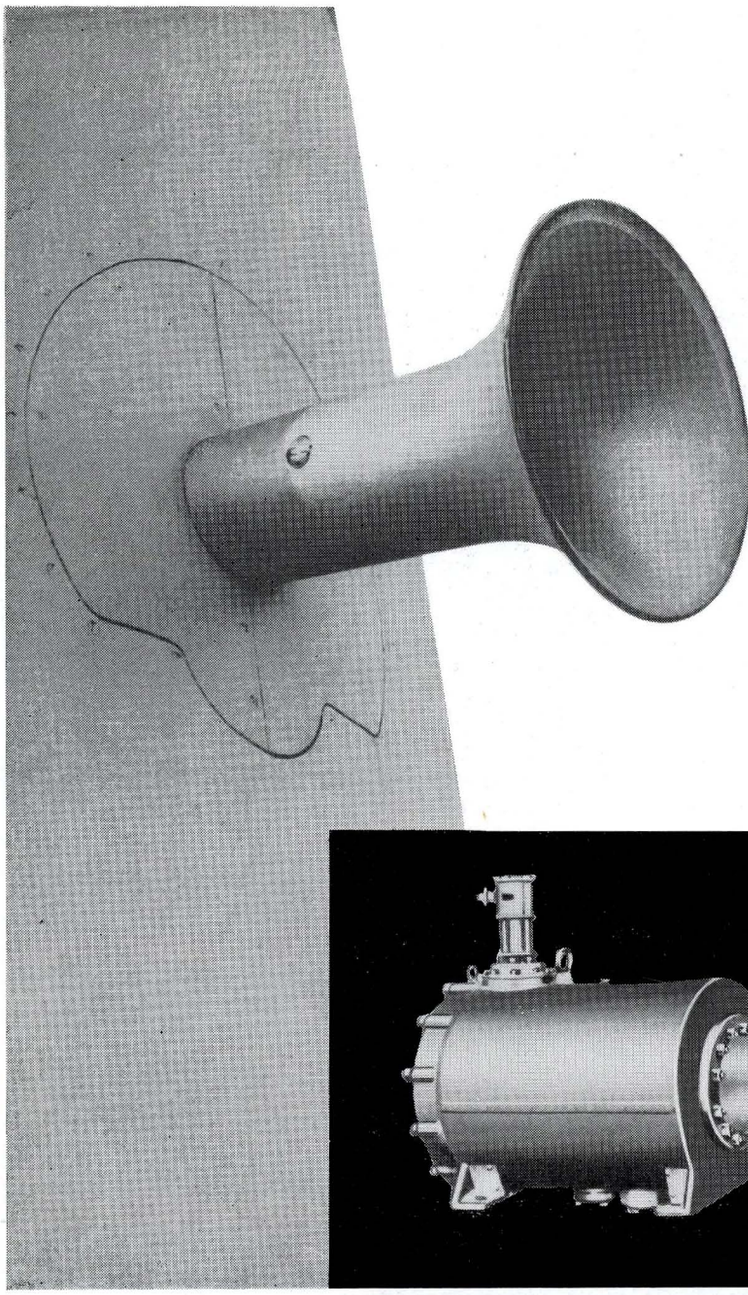
Sectional view of Babcock Selectable-Superheat boiler for naval servic



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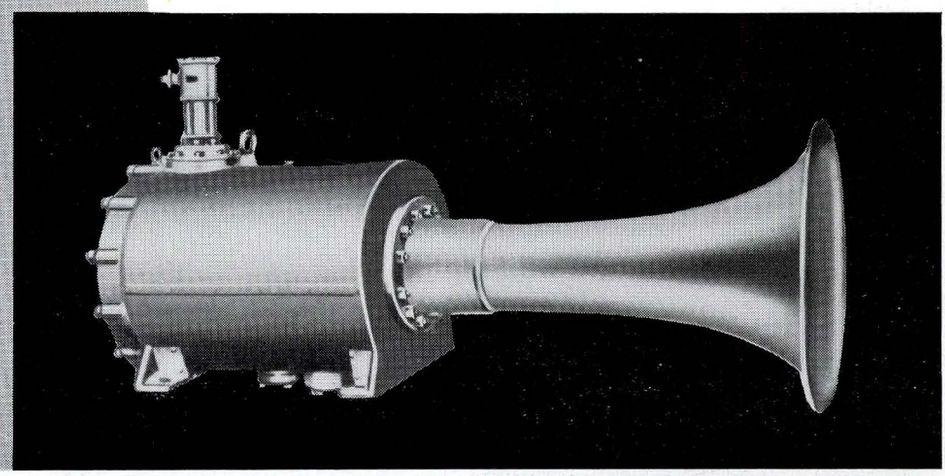
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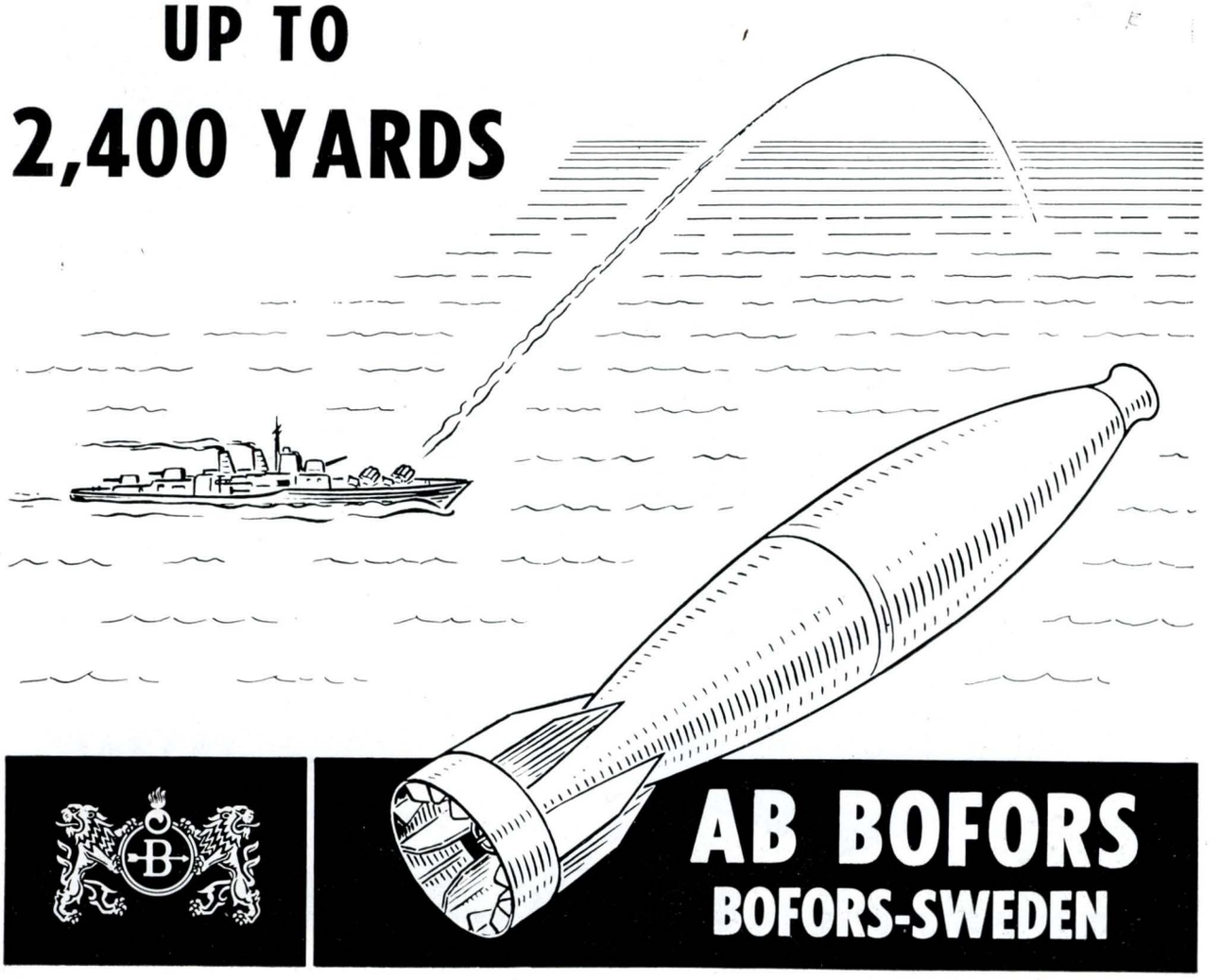
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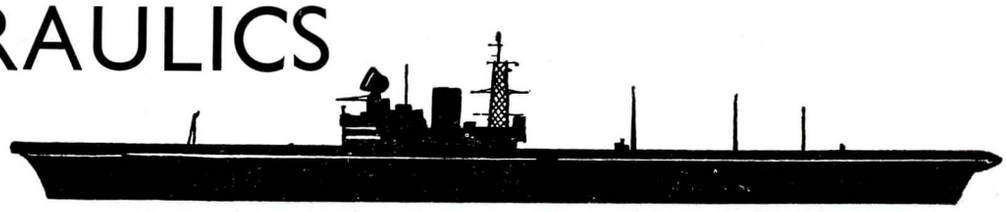
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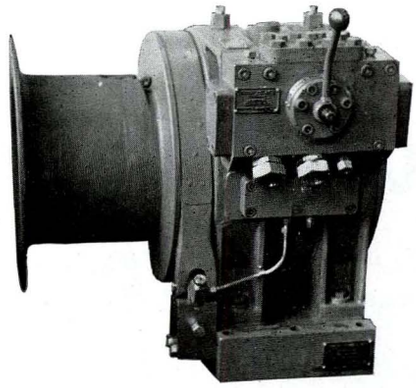
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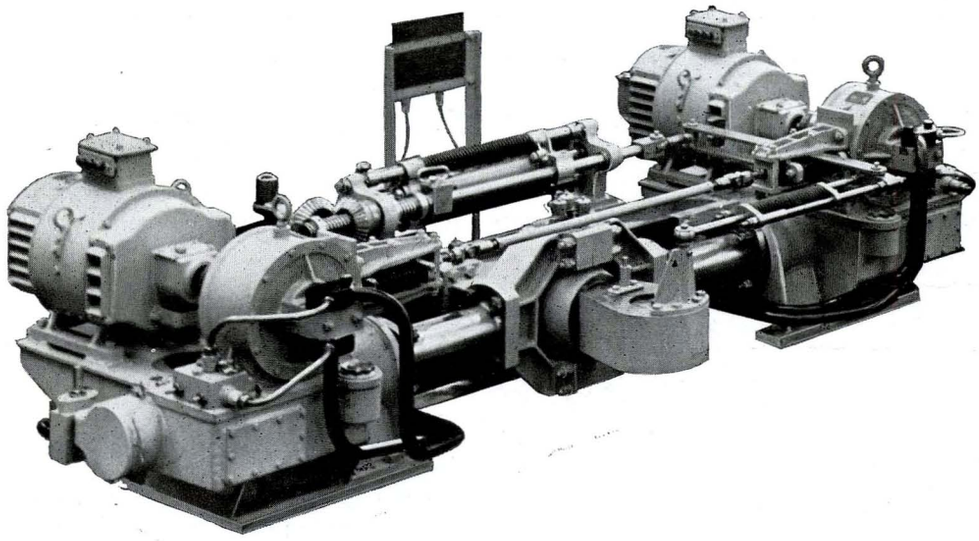
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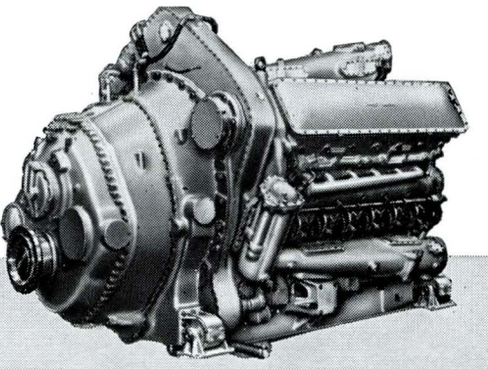


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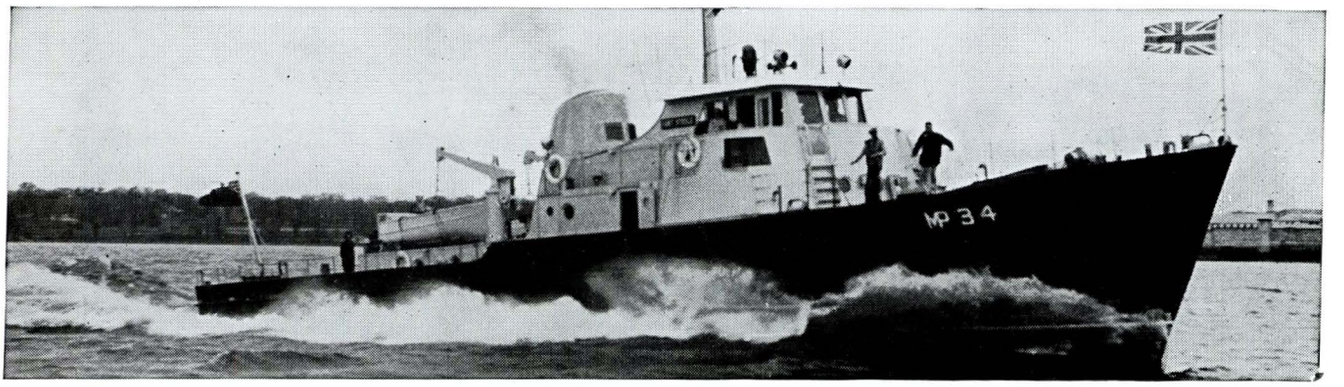
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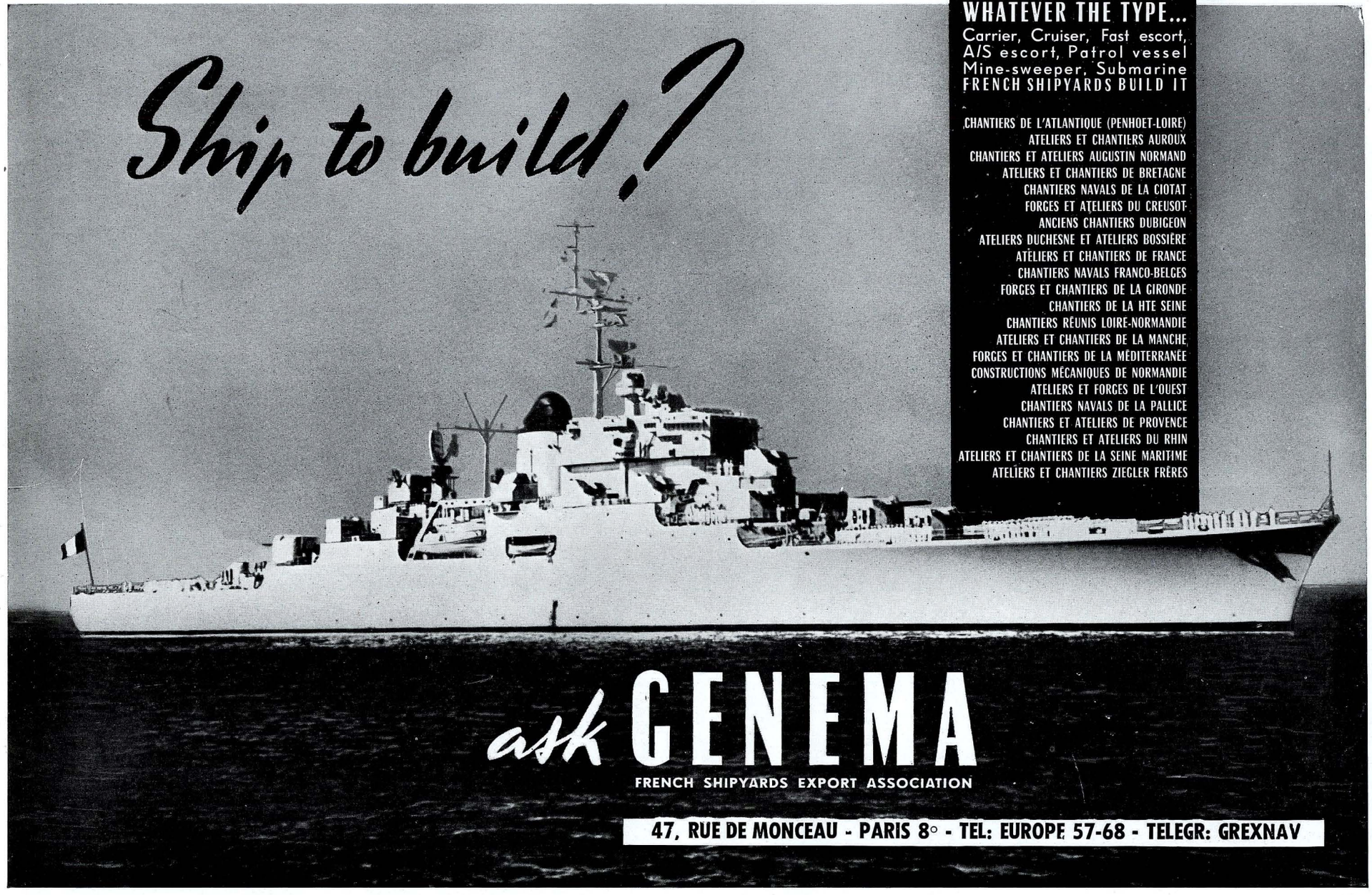
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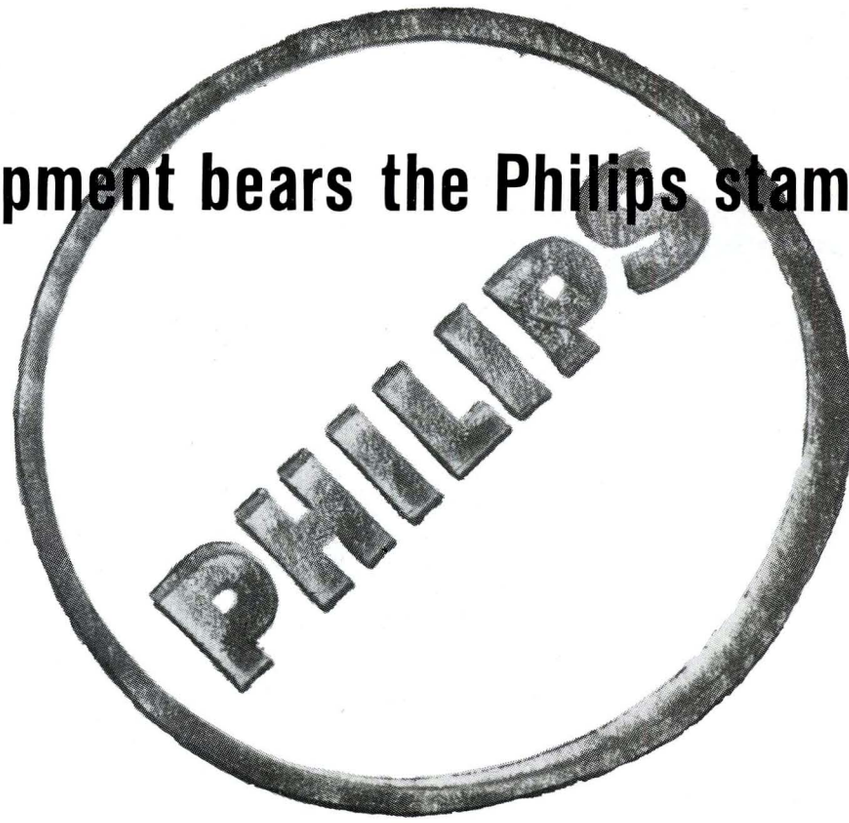
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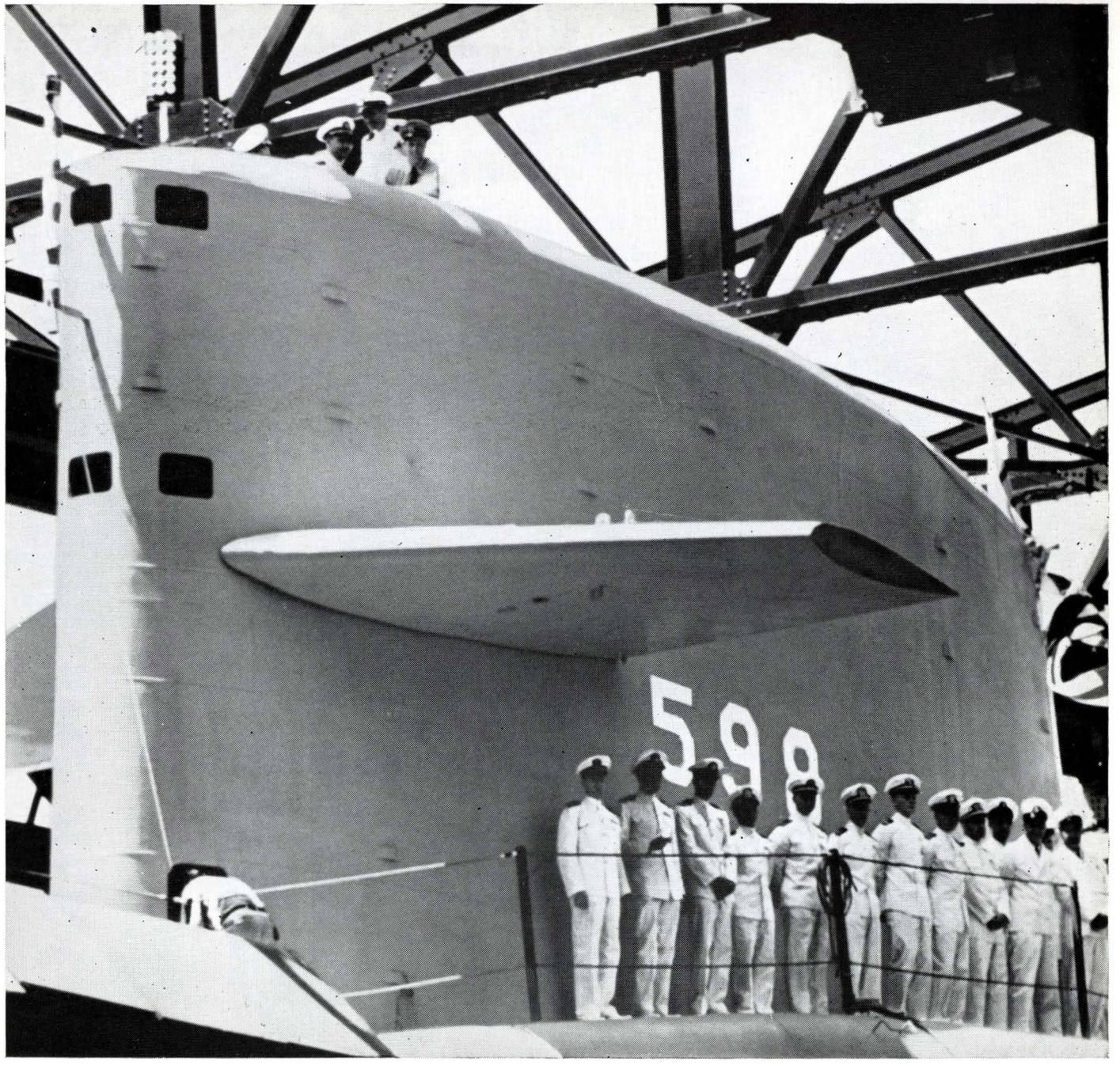


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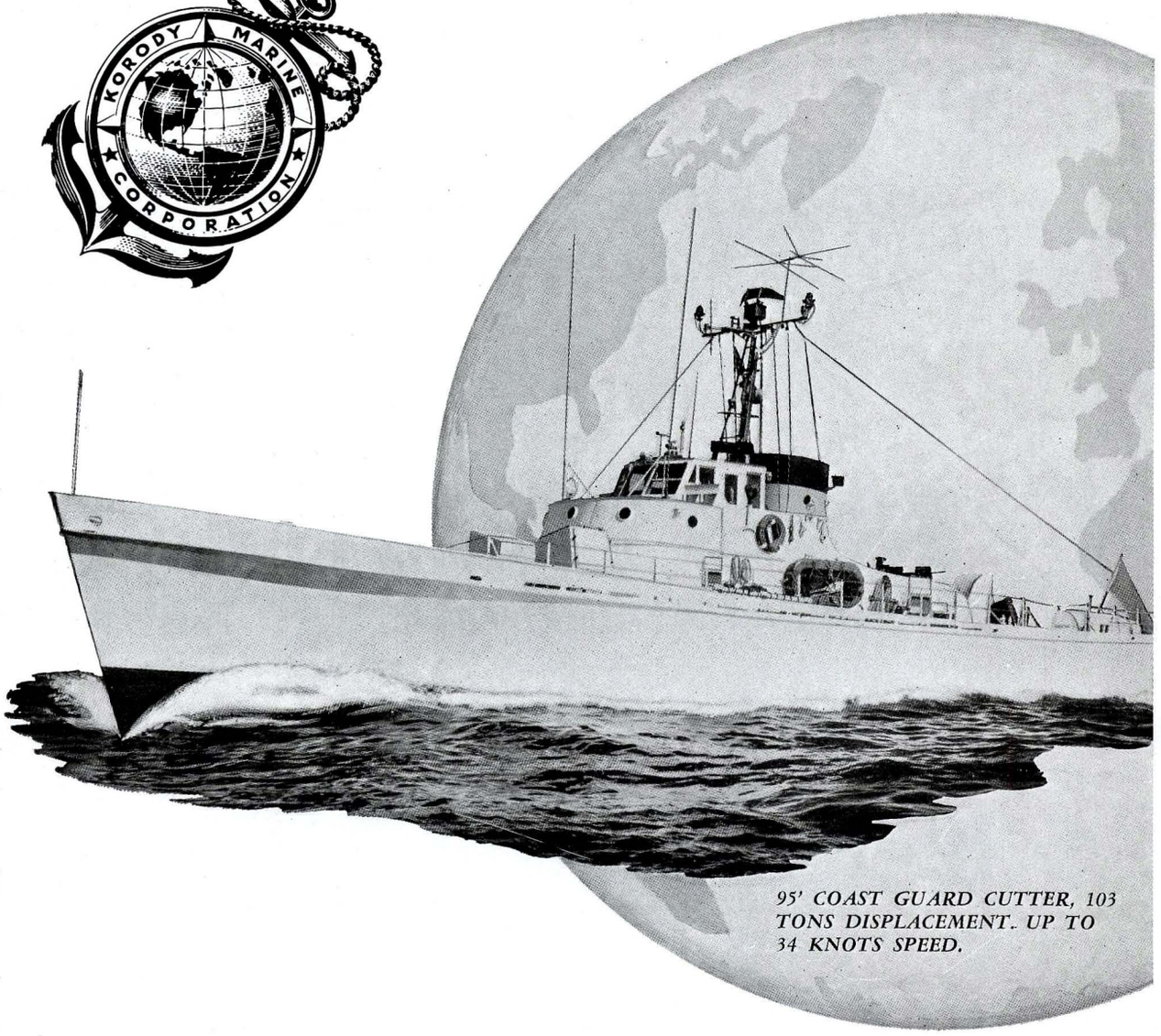
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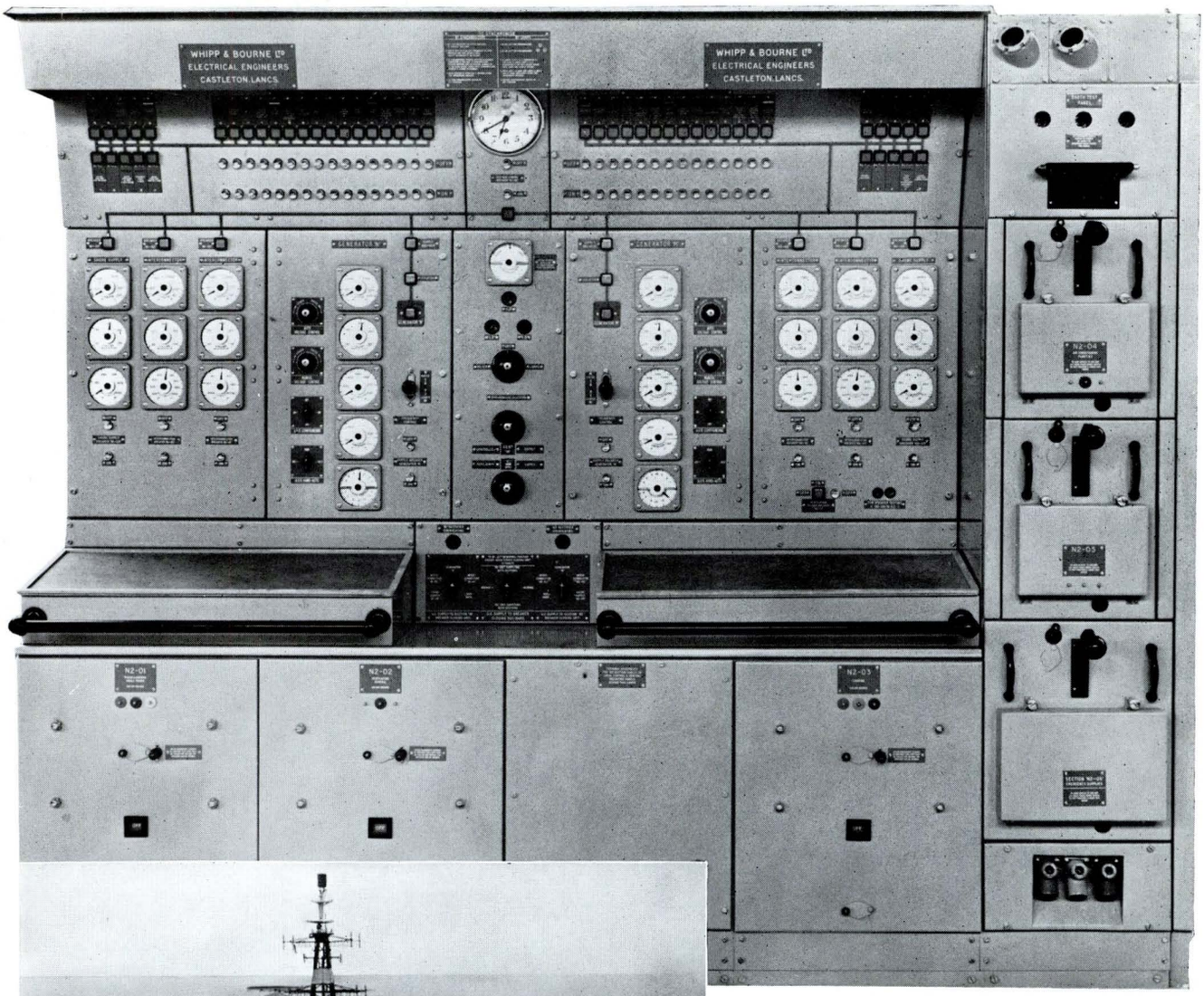
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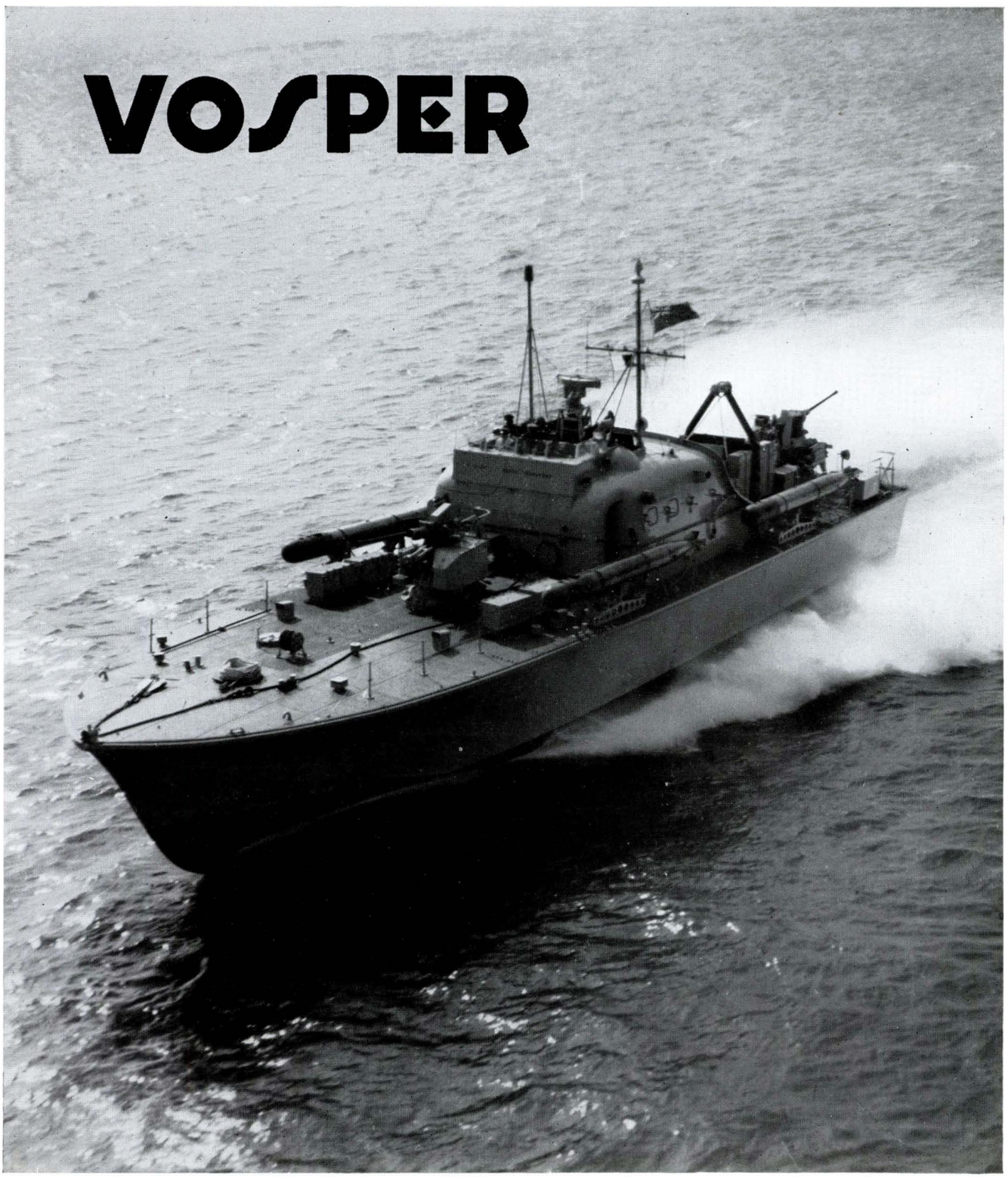
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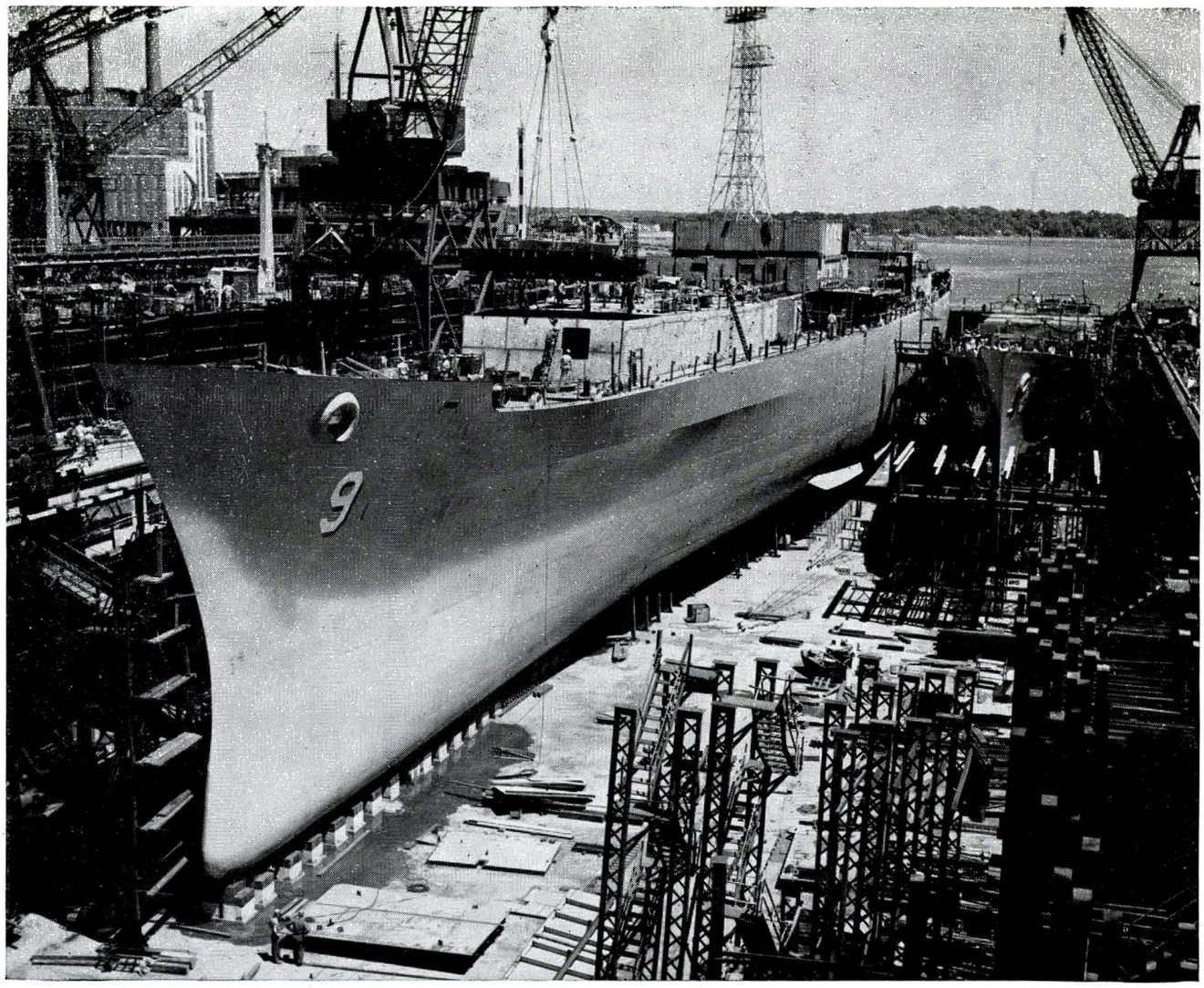
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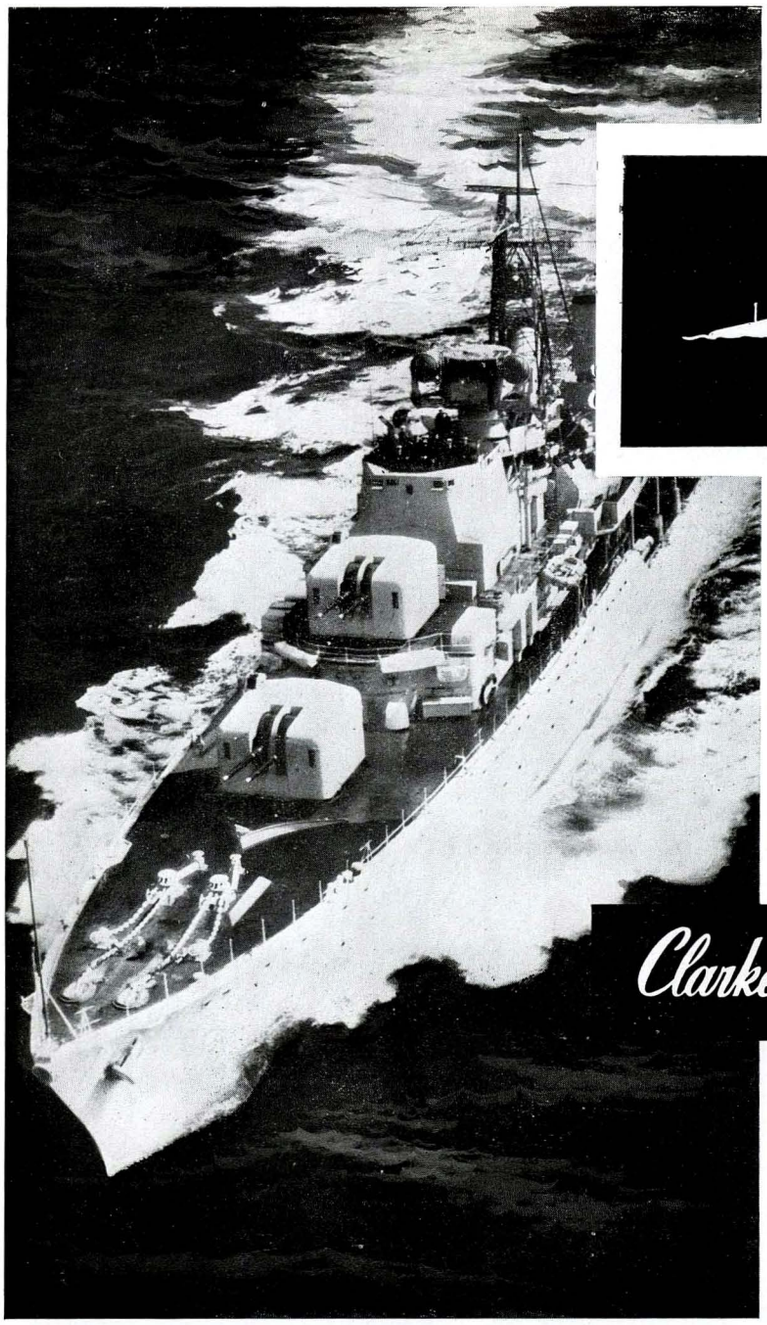
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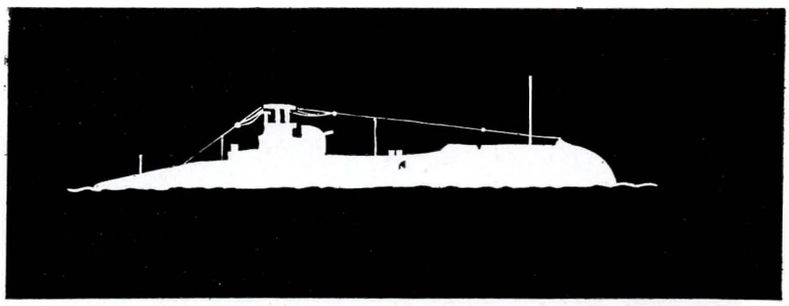
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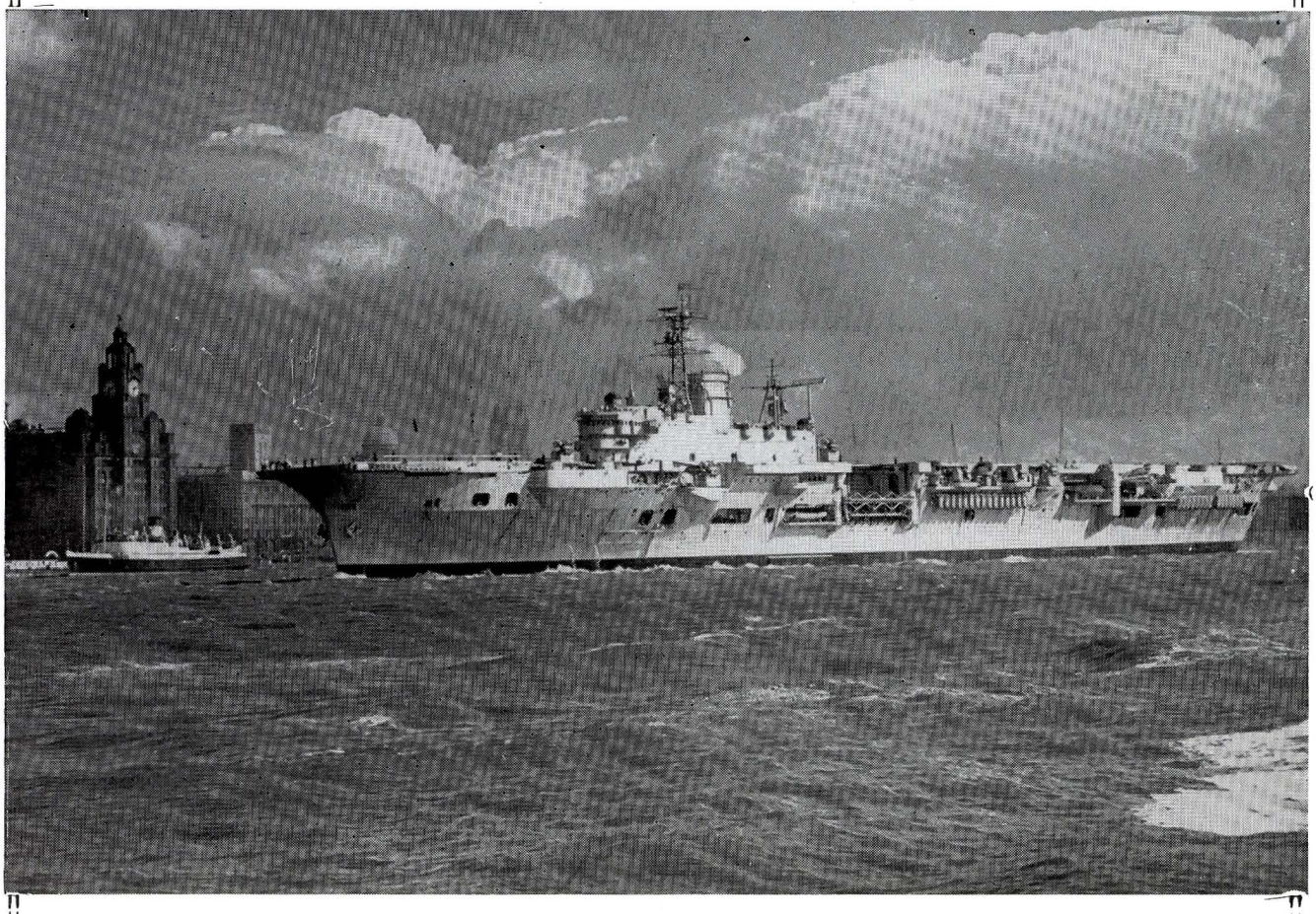
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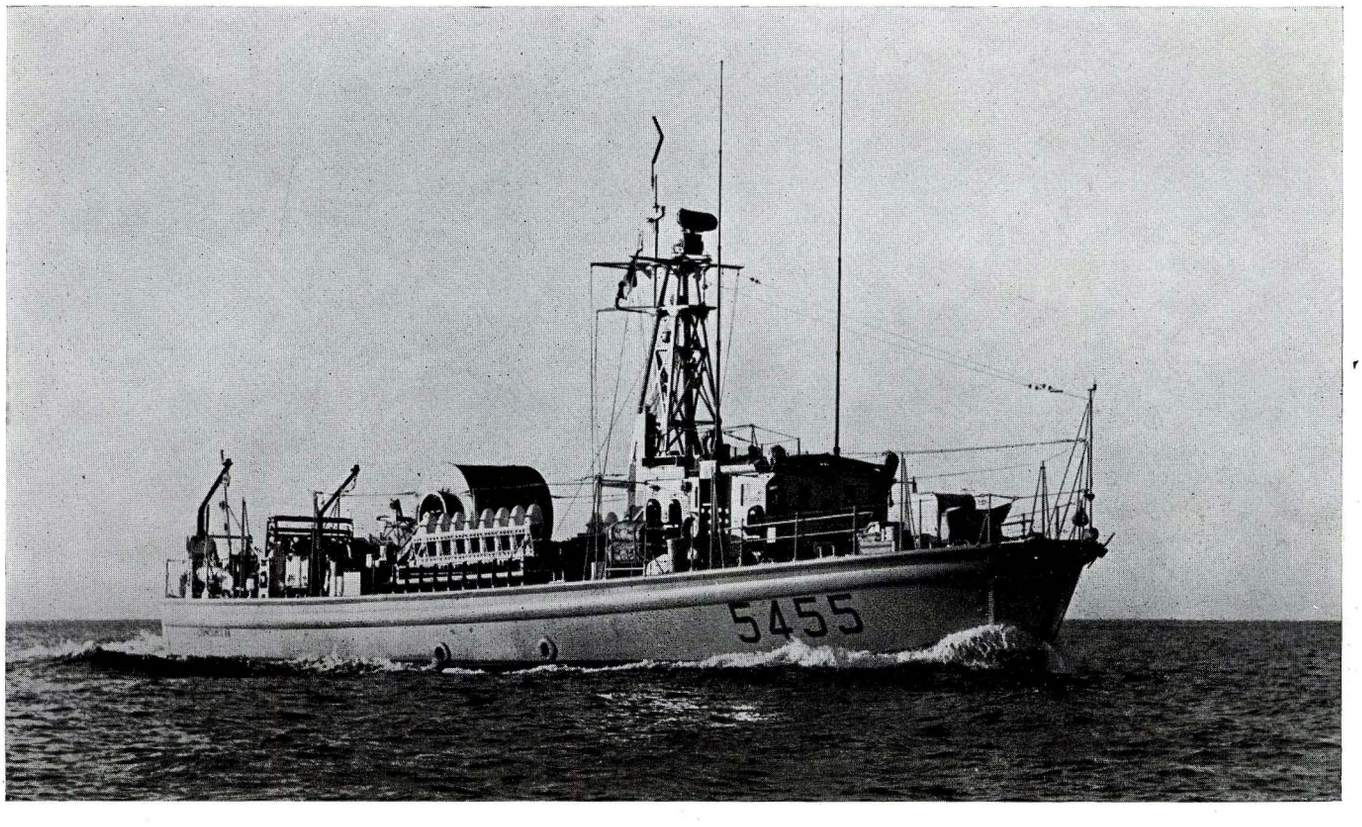
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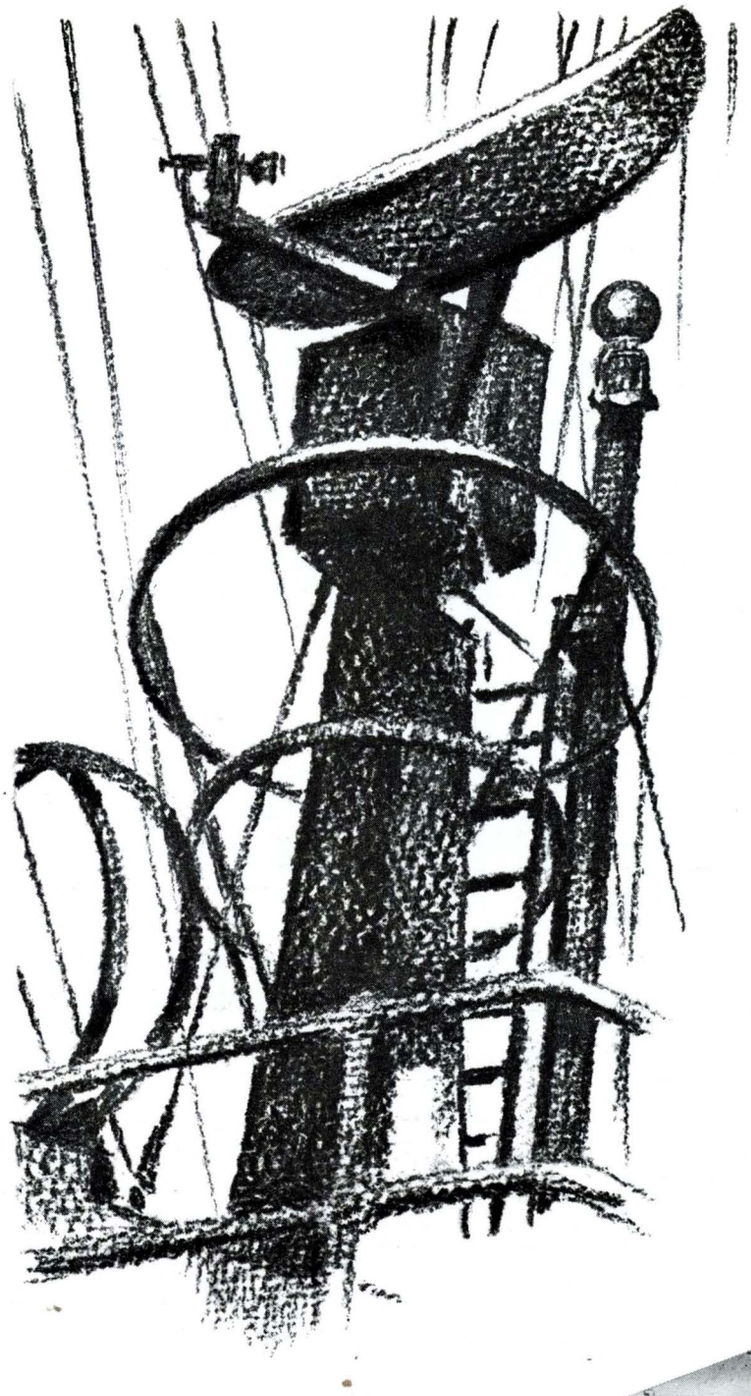
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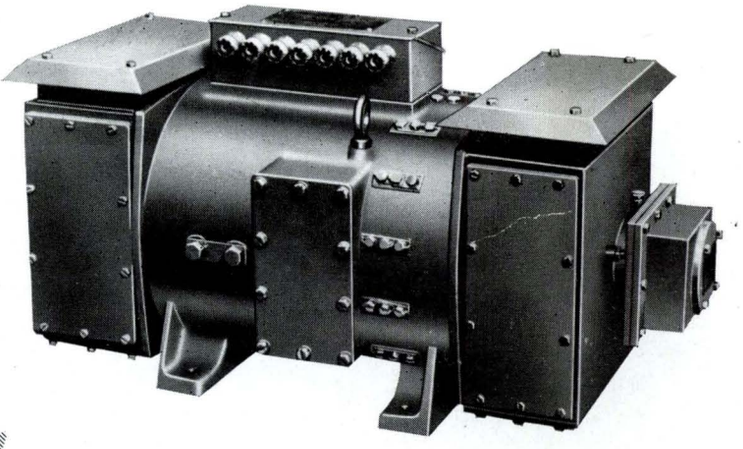
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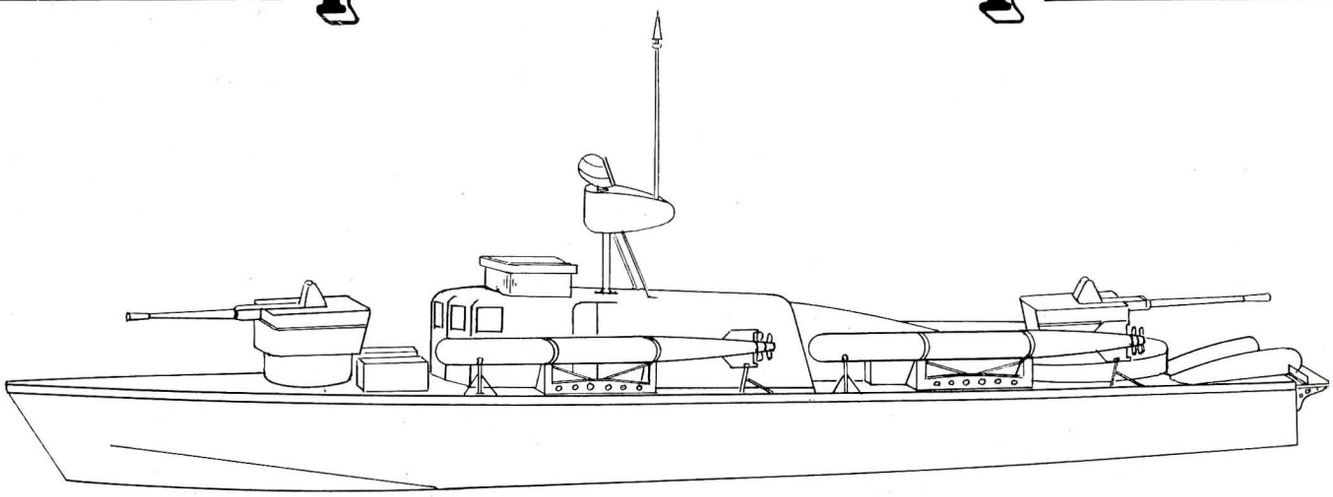
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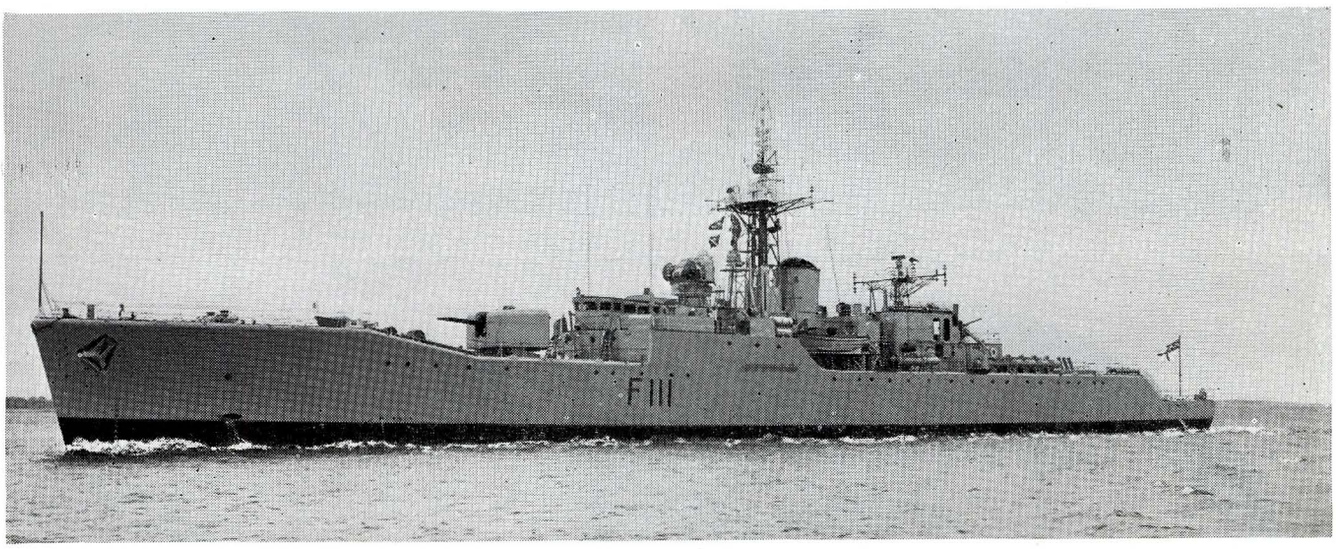
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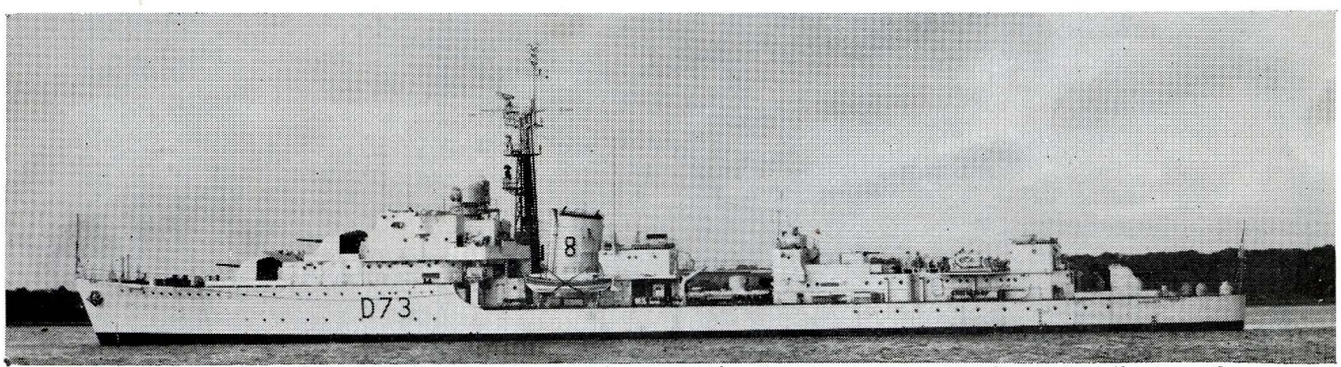
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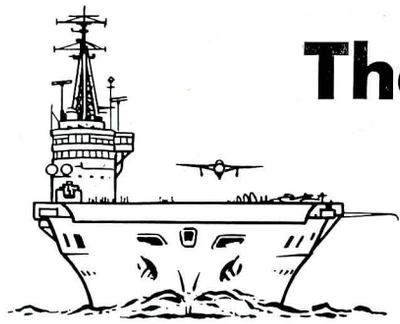


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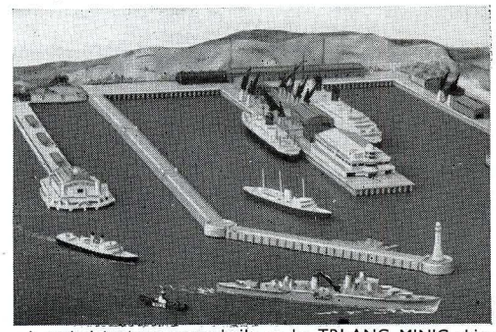
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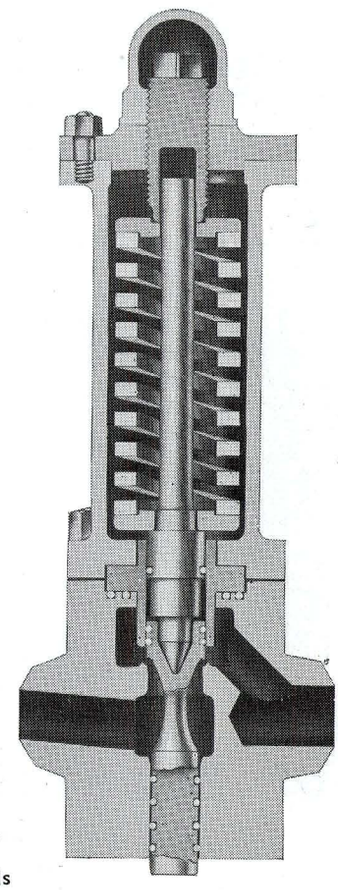
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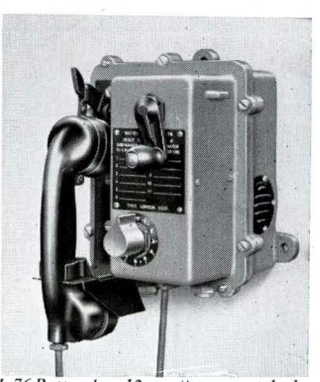
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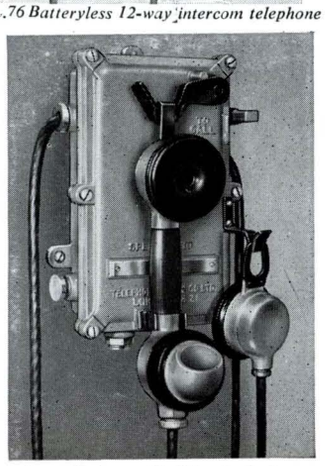


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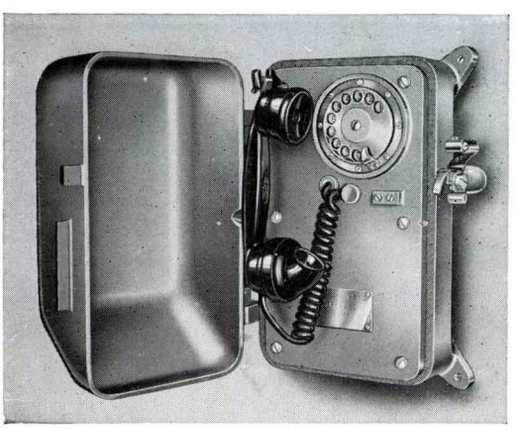
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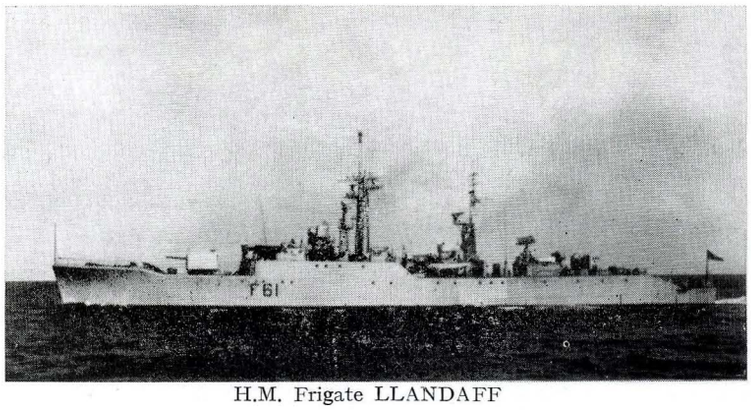
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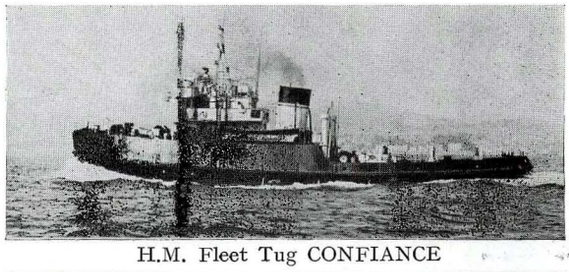
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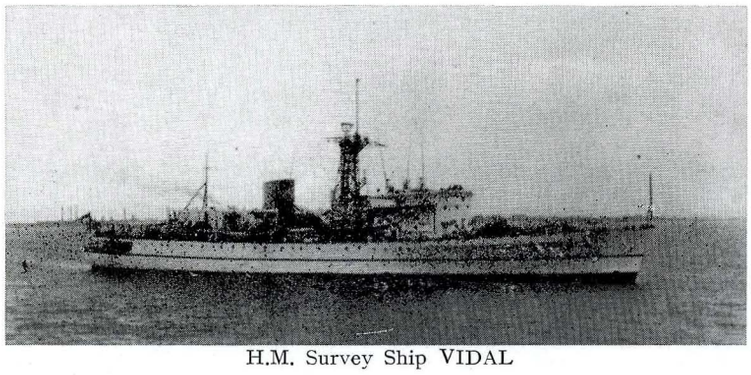
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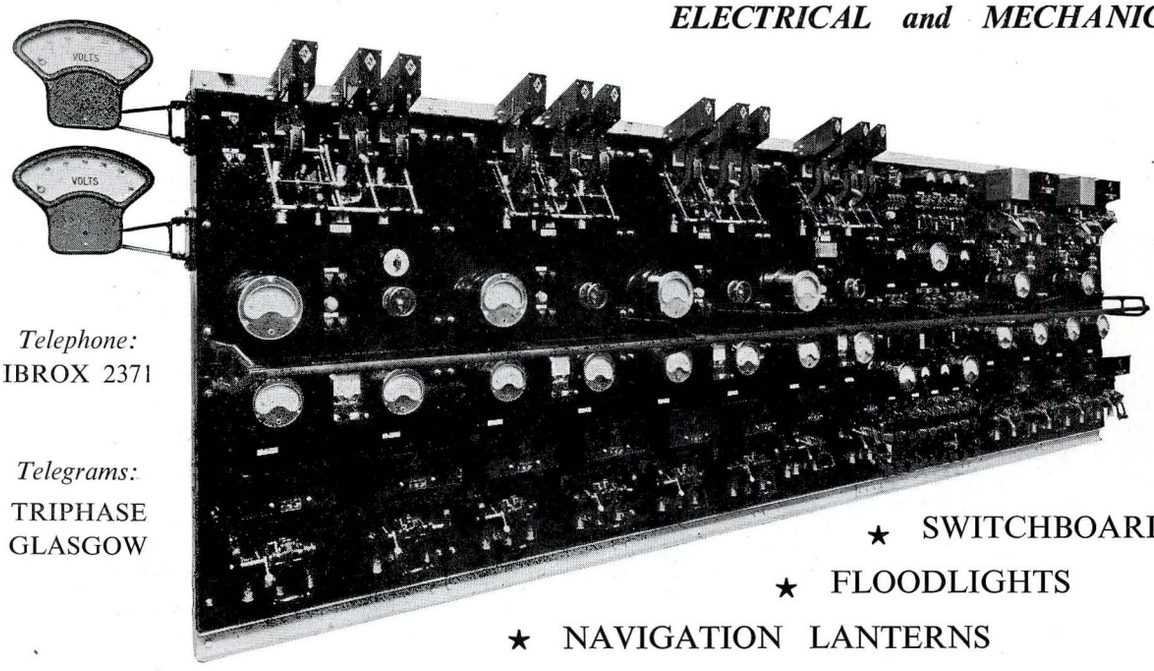
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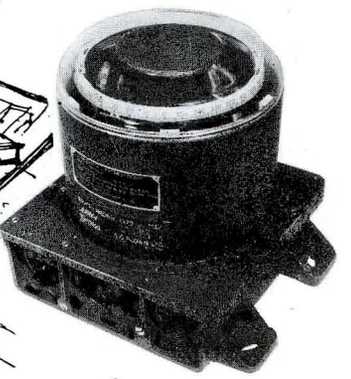
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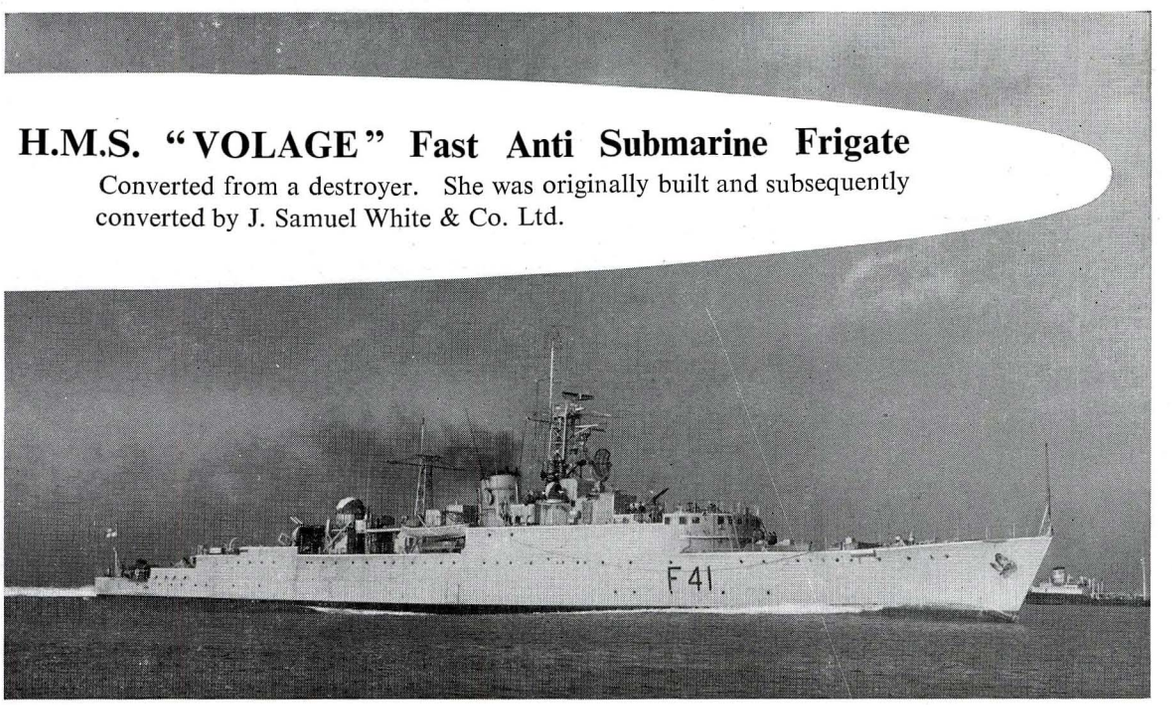
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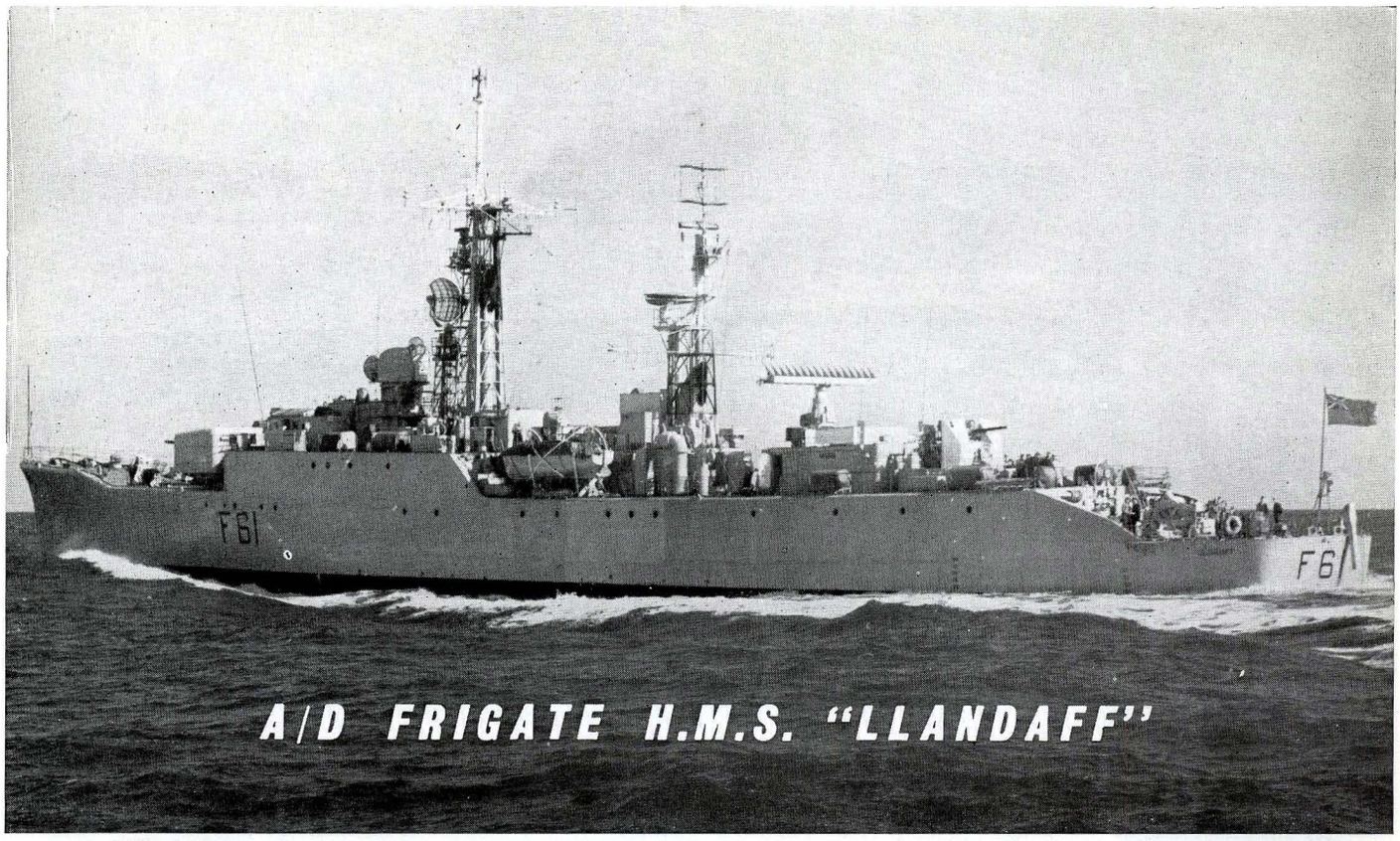


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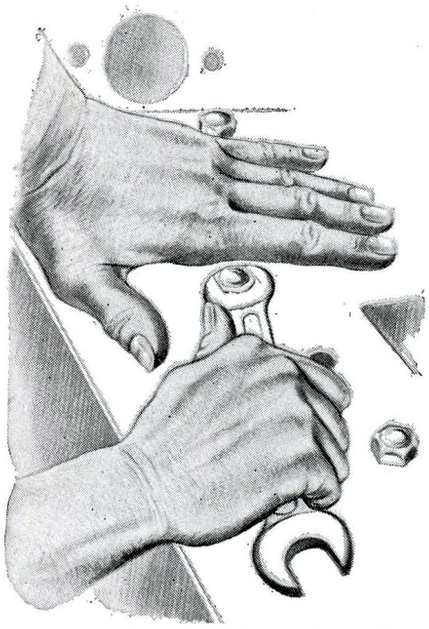
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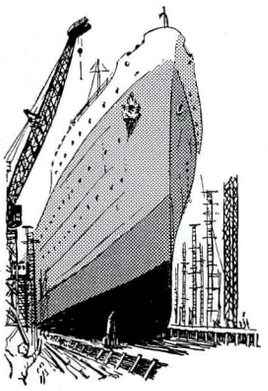
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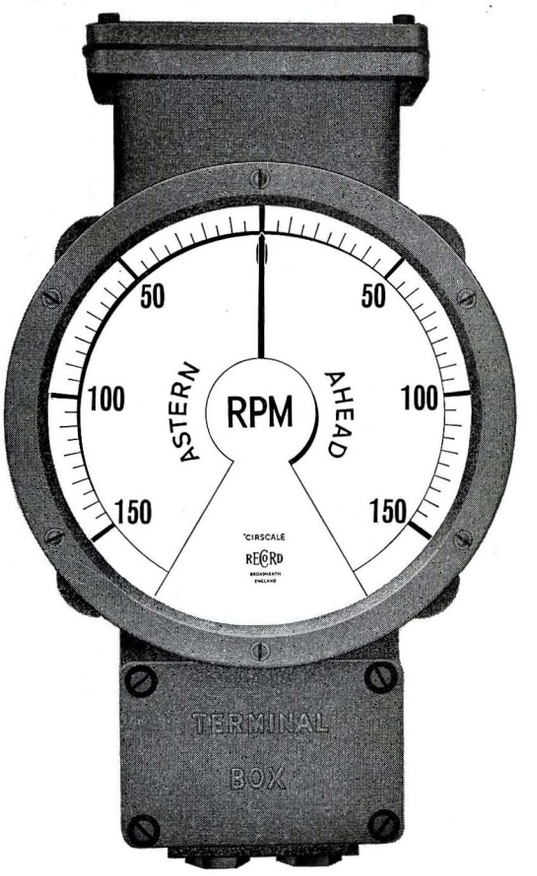
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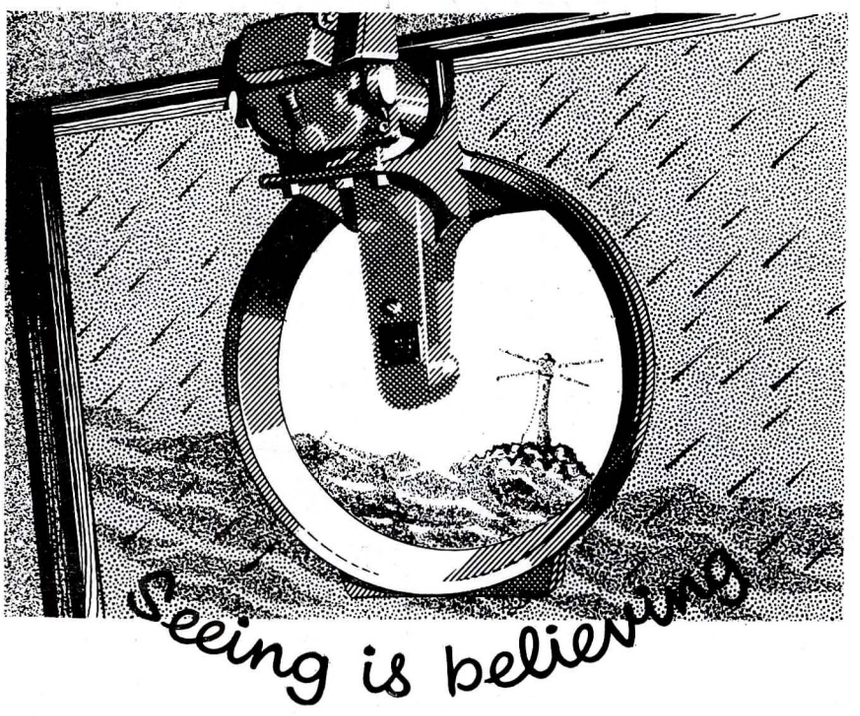


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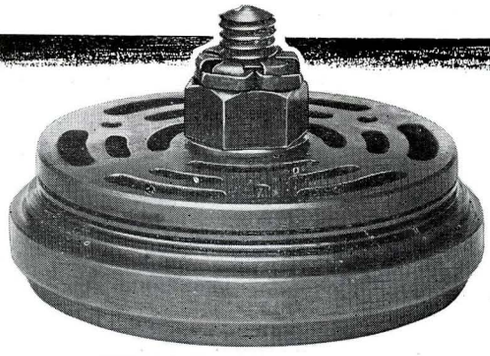
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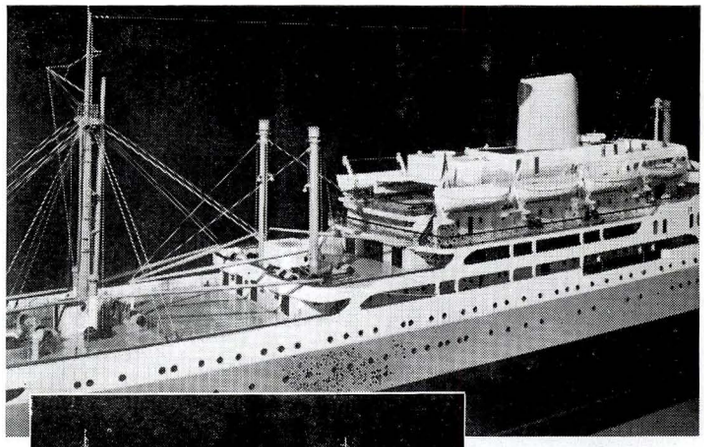
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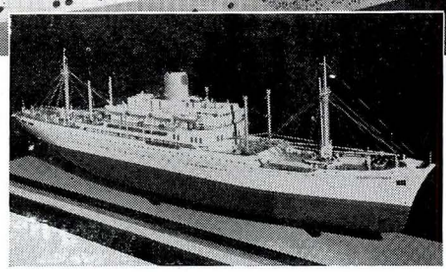
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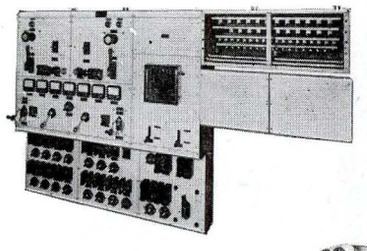
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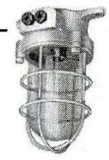
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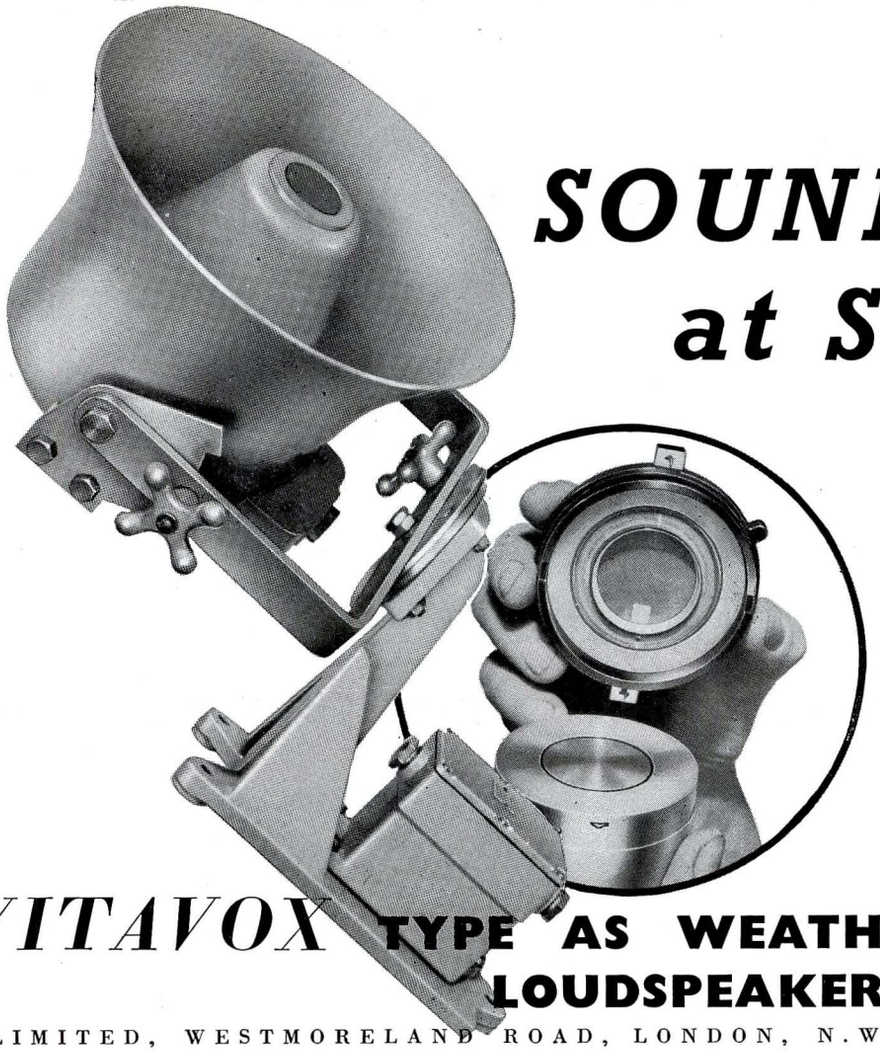


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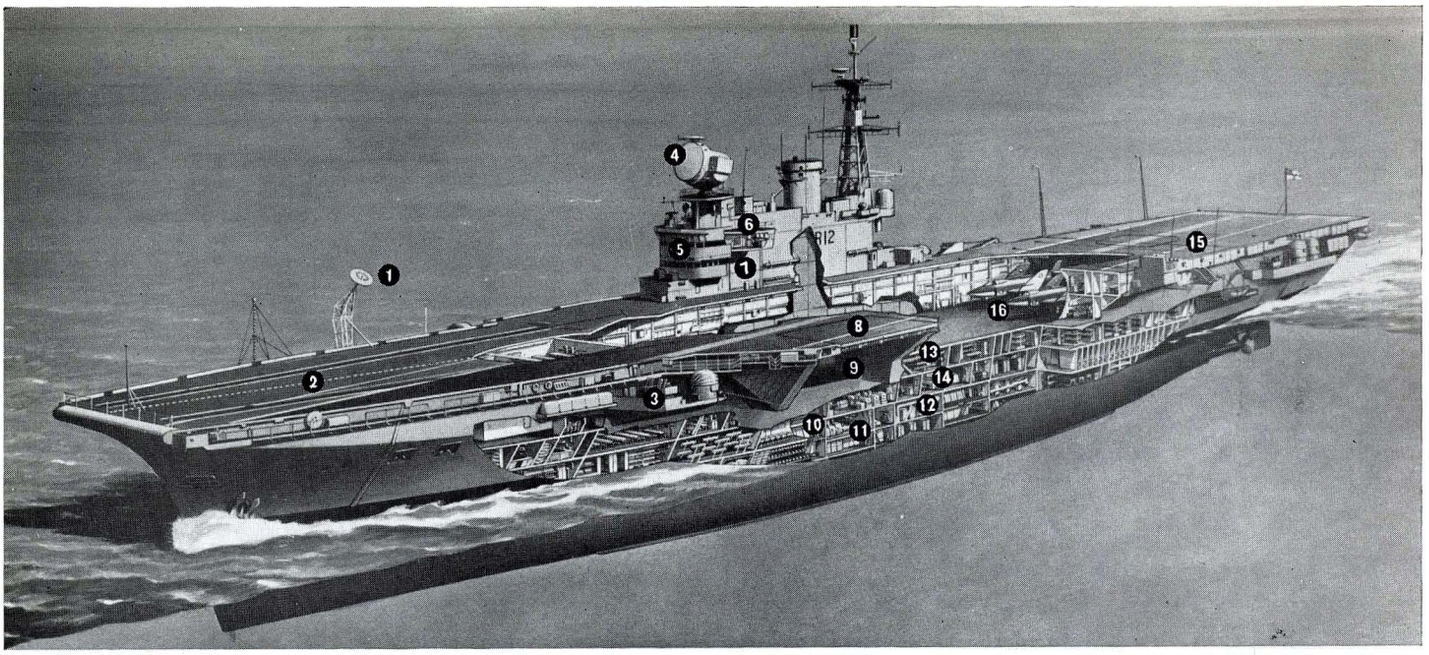
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Yarrow-built ships



This photograph shows H.M.S. HARDY and
H.M.S. KEPPEL taking part in naval exercises in connection with
the North Atlantic Treaty Organisation.
They were built by Yarrow & Company in 1955 and 1956 respectively

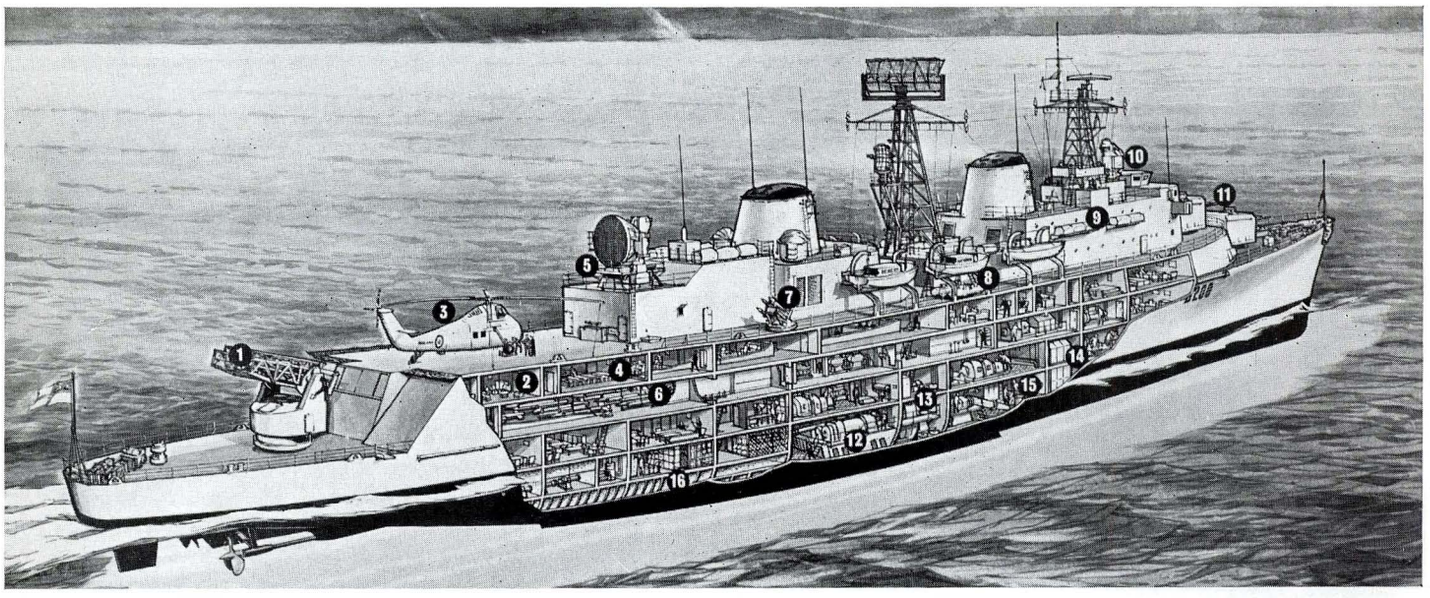
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HERMES

1960, *courtesy Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness*

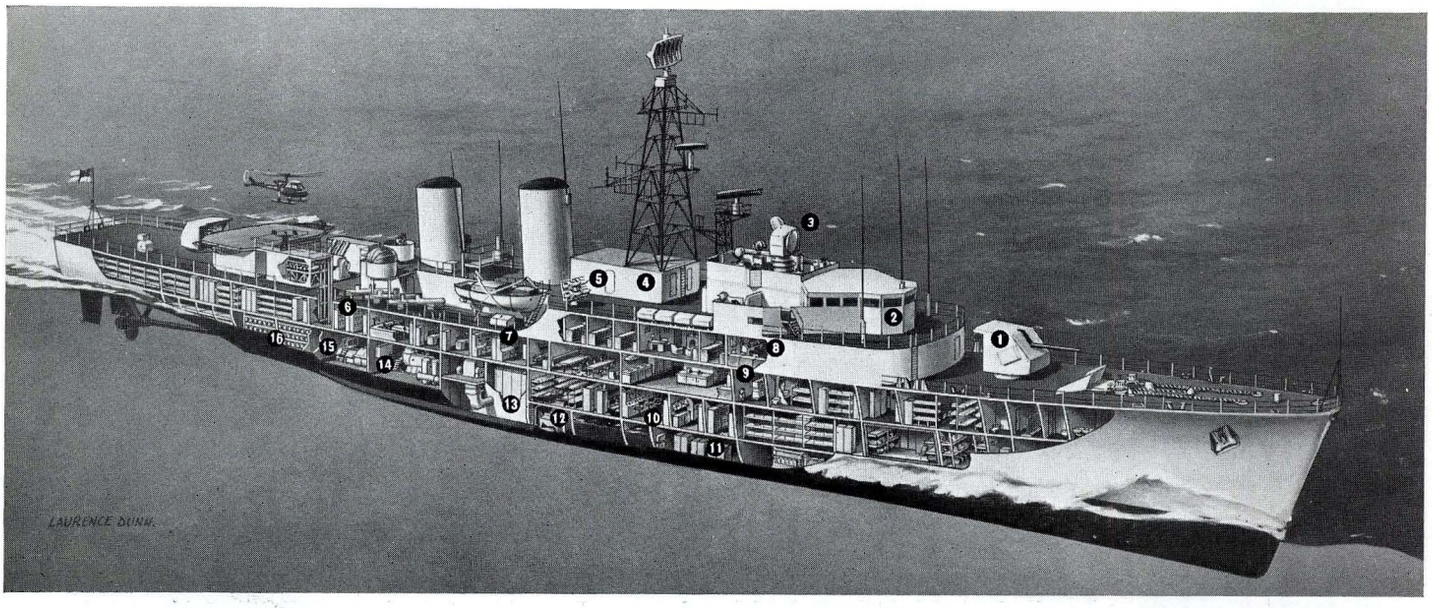
Key: 1, carrier controlled approach beacon; 2, catapult; 3, twin Bofors; 4, type 984 radar; 5, compass platform; 6, flying control; 7, operations room; 8, deck edge lift; 9, side entrance to hangar; 10, "A" boiler room ; 11, "A" engine room; 12, No. 2 machinery compartment; 13, air weapon assembly space; 14, machinery control department; 15, arrester wires; 16, Scimitars.



DEVONSHIRE

1960, *Official*

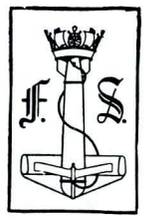
Key: 1, Seaslug launcher; 2, C.P.O.'s Mess; 3, Wessex anti-submarine helicopter; 4, crews dining hall; 5, missile-guidance radar; 6, missile stowage; 7, Seacat close range anti-aircraft missile; 8, homing anti-submarine torpedo tubes; 9, inflatable life rafts; 10, enclosed bridge; 11, 4·5 inch twin gun mountings; 12, gas turbine room; 13, gearing room; 14, boiler room; 15, steam turbine room; 16, fuel tanks.



MOHAWK

1960, *courtesy Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness*

Key: 1, 4·5 inch gun with rocket flare launchers at sides; 2, enclosed bridge; 3, main director; 4, missile testing compartment; 5, Seacat; 6, switchboard room; 7, transmitting room; 8, operations room; 9, diesel generator room; 10, radar office; 11, radar power room; 12, stabiliser compartment; 13, boiler box round boiler; 14, engine room with gas turbine starboard side; 15, gearing room; 16, projectile room.



JANE'S FIGHTING SHIPS

1960-61

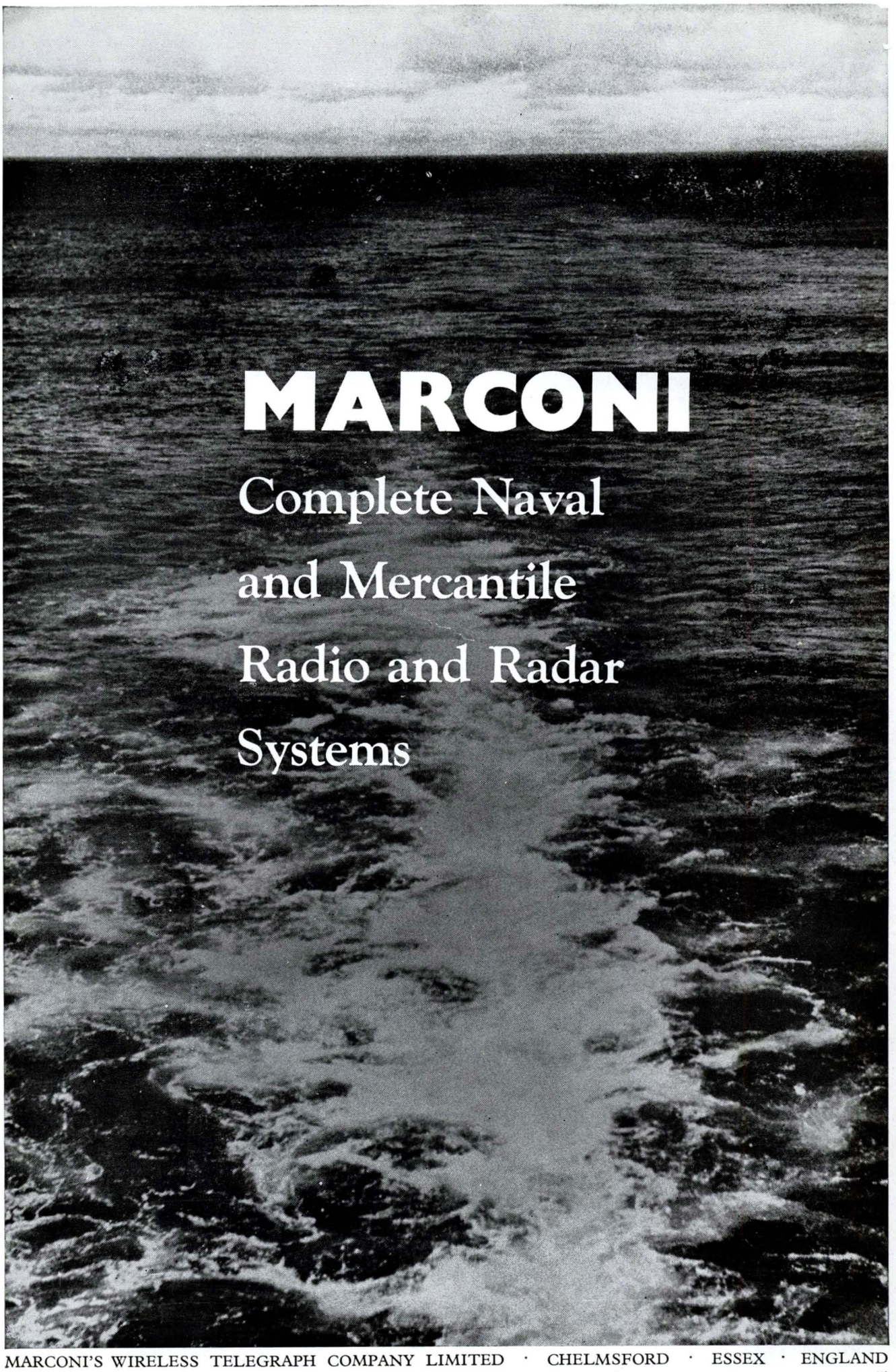
FOUNDED IN **1897** BY FRED T. JANE

Compiled and Edited by
RAYMOND V. B. BLACKMAN,
A.M.R.I.N.A., A.I.Mar.E.

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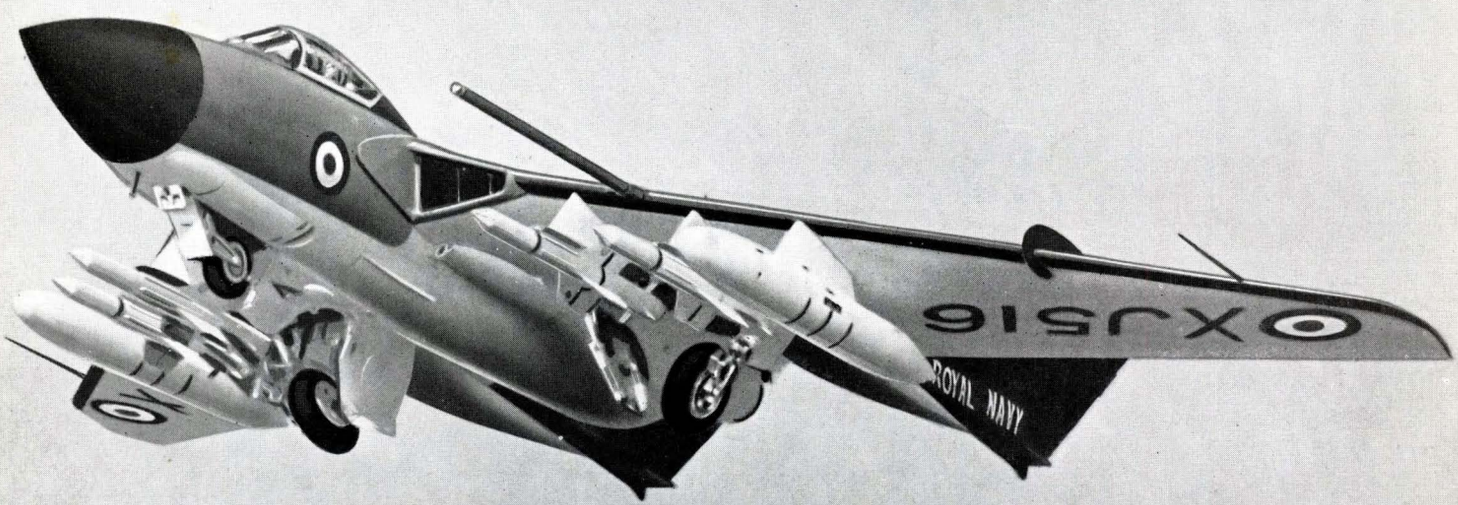


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The de Havilland (DH 110) Sea Vixen, fitted with de Havilland Firestreak infra-red guided weapons, is a transonic all-weather day and night fighter of very high performance for carrier-based and shore-based operations. By virtue of its ability to carry a heavy load over a wide radius of action, the Sea Vixen is ideally suited for the strike-reconnaissance role.



DE HAVILLAND
(DH 110) SEA VIXEN

(Two Rolls-Royce Avon jet engines)

FOREWORD

In this edition, the 63rd year of issue of *Fighting Ships*, the volume of fresh material is well over the average, and many more alterations have had to be made. This is due chiefly to the rapidly changing naval scene, not only as regards new construction and the very different types of warships which are emerging from the shipyards, but also the extensive reconstruction, conversion or modification of existing warships, resulting in their constantly changing appearance.

Gone are the days when the design of a numerically large class of warships remained uniform from the first ship to the last. Rapid technological advances and changing naval requirements result in a constant stream of amendments being sent to the shipyards, and the tendency is for each successive ship to be better and more advanced than her sister.

In turn these modifications and improvements are incorporated in earlier classes of ships as they come in for refit. So that, instead of all ships of a class remaining basically the same in appearance throughout their service lives, their rigs are subject to change; which complicates even further the already difficult task of producing a technical annual like *Fighting Ships*.

The British and American dockyards in particular seem to have the organisation and capacity to modify a warship almost overnight and often a ship, hitherto familiar to many from some easily identified feature, will sail out of the yard in a new guise, perhaps with a gun mounting or director missing here and torpedo tubes or guided missiles installed there, or a mysterious deckhouse jutting where there was clear deck previously and an erstwhile naked mast bristling with radar antennæ of a shape never seen before—all being necessary additions or modifications for the new concept of sea warfare on the water, in the air, or below the surface.

But with the co-operation and goodwill of the naval authorities of all but one or two of the maritime nations of the world, great and small, this edition maintains the *Fighting Ships* tradition, first established in 1897, of presenting a comprehensive picture of the navies of the world.

The technical ship data, reference tables and specialised notes have been extensively revised and in many cases considerably amplified, and some 470 new illustrations comprising 443 photographs and 27 drawings have been incorporated, either of newly built, reconstructed or recently converted warships, or to replace previous half-tones, plan and elevation drawings and silhouette sketches.

Altogether there are over 2,500 photographs and scale drawings in this issue, and particulars are given of some 10,000 warships in the navies of 75 countries. The strengths of most of these are summarised in a two page spread table at the end of the book showing the number of warships in each category at a glance for each country.

The Frontispiece this year features cutaway pictures of three new British warships of widely differing size, category and function: H.M.S. *Hermes*, the latest aircraft carrier which came into operational service this year; H.M.S. *Devonshire*, the guided missile destroyer launched in June; and H.M.S. *Mohawk*, the general purpose frigate in the early stages of construction.

The student of naval affairs, let alone the layman might well be forgiven for asking, "What is a guided missile destroyer?" Is it a destroyer *of* guided missiles or a destroyer armed *with* guided missiles? If the latter are they ship-to-ship guided missiles superseding the main armament or merely ship-to-air guided weapons and little more than improved anti-aircraft guns in replacement of the secondary armament? And is the *Devonshire* a destroyer as we have hitherto known it? Is she not up in the cruiser displacement range?

These questions reflect the confusion, if not chaos, in the realm of terms in naval architecture. And if ever there was a time when confusion should be obviated it is today when standardisation is the watchword, and liaison between allied navies, especially groups such as NATO, is close-knit.

If navies worked alone these days the classification of warships would matter only to those interested enough to make comparisons between the ships of each category in the various navies. But navies are not autonomous today. Those of the NATO powers are closely integrated strategically, tactically and operationally and in wartime would presumably work as one navy, even more closely than they do during periodical exercises in peacetime.

If the admiral in supreme command of the allied navies called for a certain number of destroyers or frigates he would expect to get a fairly homogeneous squadron allocated for the task in prospect. But what he would get today if he demanded a proportion of each navy commensurate with its strength is a heterogeneous collection of ships ranging from small gunboats up to light cruisers.

Frigates now range from 6,000-ton ships in the United States Navy down to 600-ton ships in European navies, and destroyers range from the new so-called guided missile destroyers of 5,000 tons in the British Navy down to vessels of 1,000 tons in other navies.

The fact is that warship terms have now lost their meaning, judged either from the criterion of size or function. Battleship meant a ship in the line of battle (line-of-battle ship—abbreviated to battleship), but Jutlands are never likely to be fought again, and all warships fight battles in a general, limited, or specialised way. Cruiser meant a self-contained ship capable of cruising independently without support from other ships, but many other warships qualify in these respects today. Destroyer meant a destroyer of torpedo boats (torpedo boat destroyer—abbreviated to destroyer), but they grew out of that category and became anti-submarine vessels and maids-of-all work. Frigate was a term revived from Nelsonic times to indicate the enlarged type of corvette (a term itself revived from the past) evolved to deal with the submarine menace.

Yet all these terms were handy one-word designations which until the end of the Second World War denoted ships in their own definite size and function ranges in descending order of importance—battleship, cruiser, destroyer, frigate, corvette; all fleet or escort types, as distinct from the highly specialised types like aircraft carrier, submarine, minelayer, minesweeper and landing craft, which are specifically designed for attack or defensive tasks and require hull forms and weapons outside the conventional run of naval architecture.

It has been the custom in recent years, especially in the United States Navy, to classify ships according to their type of machinery and the weapons they carry, e.g. Nuclear Power Aircraft Carrier, Guided Missile Cruiser. But assuming that a nuclear power plant is only a logical advance in the science of marine engineering and that a guided missile launcher is merely a longer range and more accurate gun still within the sphere of ordnance engineering, why should these features determine the classification of the vessels in which they are installed? Hitherto we have not distinguished between vessels of the same category according to whether they had reciprocating engines, steam turbines, diesels or gas turbines. Nor have we made a distinction in the category of vessels carrying guns of different marks or calibres (except as required by Treaty definition) or mounted singly or multiply, or hand-served, semi-automatic or fully automatic.

Classifying a ship by its guided missile capability might have been more justifiable if the guided missiles had been ship-to-ship weapons, but surface ships so far equipped are armed with ship-to-air weapons which can be regarded only as improved anti-aircraft guns. And classifying a ship by its nuclear power plant can only be justified in so far as it makes an underwater craft into a true submarine as distinct from a submersible boat propelled by diesels.

In some quarters it has been the tendency to lump together all warships armed with guided missiles—cruisers, destroyers, frigates and submarines—as if the guided missiles themselves can give these widely diversified types kinship enough to form a separate category.

The confusion of thought in applying the criterion of type of propulsion and armament to determine category is still further complicated by the size of ships within the categories, for frigates first overlapped and then overtook the size of



Launching of nuclear submarine **SCULPIN** at Ingalls' Gulf Coast yards.

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destroyers and have now soared into the light cruiser range.

If the criterion cannot be propulsion, armament or size, how can the warships of the present and future be classified to give the standardisation so necessary for the unified command of international navies in war? Or for that matter the standardisation required for the successful operation of a national fleet? Perhaps the only answer is to go back to first principles and apply the criterion of function or role.

Today we have attack ships, command ships, assault ships, support ships, deterrent ships, commando ships, task ships, anti-submarine warfare ships, amphibious warfare ships, early warning ships, anti-aircraft ships, aircraft direction ships, and amphibious force flagships, as well as submarines and submersibles of various sub-categories, and minelayers, minesweepers, convoy escorts, patrol vessels and a host of auxiliaries.

How to boil the list down to a few terms recognisable at sight in the printed word is a problem facing the naval staffs of all the big maritime nations, especially the NATO group. It is to be hoped that long portmanteau terms like Anti-Submarine Warfare Support Aircraft Carrier, Guided Missile Light Cruiser, Radar Picket Destroyer, Nuclear Power Fleet Ballistic Missile Submarine, Mine Countermeasures and Support Ship, Internal Combustion Engine Repair Ship, and Drone Aircraft Catapult Control Craft will be dropped in favour of terse one or two word terms as simple as the terms cruiser, destroyer, frigate and corvettes to which we have become accustomed.

There is much to be said for the United States system of designation by symbols. There is, for example, no mistaking that a CGN is a cruiser with guided missiles and nuclear powered, or that a DER is a destroyer escort and radar picket.

With the eclipse of well known and well defined types of warships which have symbolised sea might since the beginning of the century, and the introduction of specialised types of naval vessels which defy designation in any broad category, it is imperative that some new system of classification be introduced soon.

Battleships have become all but extinct. They have totally disappeared from the British, Soviet, Italian, Swedish, Turkish, Argentine, Brazilian and Chilean Navies, eight remain in reserve in the United States Navy and one in the French Navy.

Cruisers are following battleships into obsolescence. The United States, Great Britain and Russia have all scrapped cruisers recently, and they are not being replaced.

Although it is some years since it was officially said that the modern submarine would ultimately sound the death knell of the aircraft carrier, it does seem at present that aircraft carriers are enjoying a pre-eminence likely to last for some time, and they will probably stay as the main striking ships of those navies which now possess them for the foreseeable future. But it must be recognised that with the advent of aircraft of the vertical take-off and landing type the aircraft carrier is not likely to remain static in concept—indeed it may not require anything like its present shape or form at all to carry and operate the aircraft of the future. Russia considers that aircraft carriers are as outmoded as the great surface artillery ships of the past on the grounds that the development of rocket weapons, radio, electronics and other modern techniques sharply limit their military possibilities. But there is no doubt that there is a future for the commando carrier and its American equivalent, the amphibious assault ship. The number of fixed wing aircraft carriers proper will almost certainly be limited on account of cost alone, and giant deterrent carriers, attack carriers and task force carriers are likely to continue to be built only by the United States. Only one other country, France, has built aircraft carriers, and only two, of completely post-war conception and construction. Great Britain has ordered no aircraft carriers since the end of the Second World War, although she has completed several war-built hulls and rebuilt a pre-war hull.

The most spectacular advances have been made in submarine construction, especially in the United States where the building of conventionally powered submarines has been discontinued as in future all submarines are to be nuclear powered. The range in both size and function of the new American submarines indicates the possibility of a navy entirely composed of nuclear powered underwater craft, comprising the modern equivalents of battleships (with the heaviest artillery—in the shape of Polaris missiles), aircraft carriers (with a hangar and a flight apron for a helicopter or seaplane), cruisers (with a hangar for Regulus missiles), destroyers (high speed attack submarines), frigates (anti-submarine submarines), and early warning escorts (with radar picket capabilities).

One nuclear powered submarine is worth at least three conventionally powered submarines, for while three of the latter are required to maintain a single boat on operational patrol (one unit on station, one unit returning to base for refuelling, and one unit at base being refuelled) the nuclear powered submarine can cruise almost indefinitely.

At present the type of warship built recently or being built in the greatest numbers (apart from minesweepers and coastal craft) is the vessel of the broad leader-destroyer-frigate category for anti-submarine, anti-aircraft or radar picket duties, although as these have soared outside the displacement limits of destroyers and frigates as we have hitherto known them and are of infinitely greater complicacy, thereby costing ten times as much, they are not being built in the numbers that obtained in former days when there were fewer submarines to oppose them.

One of the major problems that the United States Navy, the British Navy and the other navies in NATO have to face is how best to be ready for the day when they may be opposed by great numbers of nuclear powered submarines.

But even today the potential enemy submarine menace is colossal. In the event of hostilities the allied navies might be threatened by 450 to 500 submarines, and the damage they could inflict on our matériel, personnel and economy baulks the imagination when it is remembered that at the height of the 1939-45 war little more than a fifth of this total was enough to bring the United Kingdom to the brink of starvation not only as regards food for its population but as regards the vital raw materials required to prosecute the war.

While the United States, Britain, France, Italy, the Netherlands, Canada and other NATO countries have all built a certain number of anti-submarine vessels since the end of the Second World War, and also have a reserve of modernised war-built destroyers and frigates, the total number of all the anti-submarine vessels available would not be sufficient to meet the threat of enemy submarine attack.

It is perhaps not generally appreciated that the U.S.S.R. not only has more submarines than all the other countries in the world put together, but she has built more destroyers and frigates since the end of the Second World War than all the other nations of the world put together, although not many of them are as big or of such a high quality as some of the British and American ships of the category.

However, a navy's strength does not lie altogether in the number of its orthodox warships. It depends on technological know-how and specialised application stemming from research and development both at sea and on shore. The existence of such vessels as missile range ships and advanced submarine parent ships prompts the thought that a vessel does not have to be built on warship lines to be an important naval unit. The best disguise for secret operations by a navy is a converted mercantile hull in which trials and experiments are conducted far out of sight in the vastness of oceans like the Pacific.

Great Britain

H.M.S. *Hermes*, laid down in 1944 and launched in 1953, was finally completed and joined the fleet as an operational aircraft carrier in the summer of 1960. The larger aircraft carrier *Ark Royal* also joined the fleet after refit. Her sister ship *Eagle* is undergoing full modernisation and reconstruction to bring her up to the same standard as the rebuilt aircraft carrier *Victorious*. The aircraft carrier *Bulwark* has been converted into and is operating as a commando carrier, and a sister ship, H.M.S. *Albion*, is to be similarly converted.

The cruiser *Lion*, laid down in 1942 and launched in 1944 was completed in 1960, and her sister ship *Blake*, also completely redesigned on a war-built hull, will be completed in the New Year, thus making a trio with H.M.S. *Tiger*, completed last year. These three vessels will soon be the sole survivors of the fleet of 60 cruisers which Britain possessed at the end of the Second World War.

Of the four so-called guided missile destroyers of the new

v

" County " class under construction, the first, H.M.S. *Devonshire*, was launched in June.

Three more of the seven general purpose frigates of the " Tribal " class have been launched this year, the *Gurkha*, *Nubian* and *Tartar*, following the prototype *Ashanti* which took the water last year. Of the anti-submarine frigates of the " Whitby " class, four more were completed, *Londonderry*, *Rothesay*, *Rhyl* and *Yarmouth*, while another, *Lowestoft*, was launched. The last of the four anti-aircraft frigates of the " Leopard " class, *Jaguar*, and the last of the four aircraft direction frigates of the " Salisbury " class, *Lincoln*, have been completed. A new " Leander " class of all-purpose or versatile anti-submarine frigates is projected.

H.M.S. *Dreadnought*, Britain's first nuclear powered submarine, was launched on 21st October, and a second nuclear powered submarine has been ordered, while of conventional, submarines, *Finwhale*, the sixth of the " Porpoise " class was completed, and *Onslaught*, the third of the " Oberon " class was launched. The Admiralty is making an urgent study of the requirements for British built submarines capable of carrying Polaris type missiles.

Ships of the Royal Navy scrapped or disposed of during the year include the last battleship, H.M.S. *Vanguard*, the cruisers *Superb*, *Ceylon*, (the latter sold to Peru), *Jamaica*, *Kenya*, *Mauritius*, and *Birmingham*, eight destroyers of the " Battle " class, eight destroyers of the " C " class, 24 frigates, ten submarines, 17 ocean minesweepers, and many smaller warships.

Among the new photographs added to the British section are those of the new aircraft carrier *Hermes*, the large aircraft carrier *Ark Royal* after refit, the commando carrier *Bulwark*, as converted, the new cruisers *Tiger* and *Lion* (the latter in the Addenda), the radar pickets *Scorpion* and *Crossbow* after conversion, the new anti-submarine frigate *Rothesay* (in the Addenda), the nuclear powered submarine *Dreadnought*, the new submarine *Cachalot*, the converted submarine *Scotsman*, the reconstructed escort maintenance ship *Hartland Point*, and the new boom defence vessel *Laymoor*.

United States

The U.S.S. *Enterprise*, the world's largest ship and the first aircraft carrier ever to be powered by nuclear energy, was launched (floated up in dry dock) in September. This colossal vessel with a full load displacement of nearly 86,000 tons, a length of 1,100 feet, a width of 252 feet (more than the combined beams of the liners Queen Elizabeth and Queen Mary), a flight deck with an area of five acres, accommodation for 4,600 officers and men, and a speed of 35 knots, will have a round the world radius of action and will be capable of operating for five years without refuelling.

The *Kitty Hawk*, the fifth of the " Forrestal " class, the largest conventionally powered aircraft carriers in the world, with a full load displacement of 76,000 tons, was completed at the end of 1960, and a sixth ship, *Constellation*, was launched.

Of a new category of amphibious assault ships or helicopter carriers, the equivalent of the British commando carrier, the *Iwo Jima* was launched while her sister ship *Okinawa* was laid down and a third ship ordered.

The world's first nuclear powered cruiser, the *Long Beach*, which is also the first nuclear powered surface fighting ship in the world and the first cruiser designed from the keel up with guided missiles instead of guns, was scheduled to be completed at the end of the year. More heavy cruisers and large light cruisers have been or are being converted into guided missile ships.

The world's first nuclear powered frigate, the *Bainbridge*, scheduled to be launched in 1960, will be armed with advanced Terrier ship-to-air guided weapons.

Two of the ten guided missile frigates of the " Coontz " class, *Dewey* and *Preble* have been completed while six others are scheduled to be completed by the end of this year and two early in 1961. Nine improved vessels of the type are under construction.

Three of the projected 21 guided missile destroyers of the " Adams " class, *Charles F. Adams*, *John King* and *Henry B. Wilson*, have also been completed and ten others will be completed next year.

No fewer than 17 nuclear powered submarines have now been completed, including three fleet ballistic misisle submarines, *George Washington*, *Patrick Henry* and *Theodore Roosevelt*, all capable of firing the Polaris weapon; the radar picket *Triton*, the largest submarine in the world, and *Halibut*, the first submarine designed and built from the start as a guided missile carrier.

The atomic submarine line-up for the United States Navy is now very formidable. It comprises *Nautilus*, *Seawolf*, *Skate*, *Swordfish*, *Sargo*, *Seadragon*, *Skipjack*, *Triton*, *Halibut*, *Scamp*, *Scorpion*, *Sculpin*, *Shark*, *Snook*, *Thresher*, *Permit*, *Plunger*, *Barb*, *Tullibee*, *George Washington*, *Patrick Henry*, *Theodore Roosevelt*, *Robert E. Lee*, *Abraham Lincoln*, *Pollack*, *Haddo*, *Jack*, *Tinosa*, *Dace*, *Ethan Allen*, *Sam Houston*, *Thomas A. Edison*, *John Marshall*, *Guardfish*, *Flasher*, *Greening*, *Gato* and *Lafayette*, to mention only the 38 so far named, and others are in project.

History was made when the nuclear powered fleet ballistic missile submarine *George Washington* fired Polaris missiles while under water, the first time such weapons had been launched from a submerged submarine, and in naval circles this is considered to be the most important event of the year, far outweighing all other military progress in its significance for the future. The United States is considered to have made a technical break-through comparable to the explosion of the first atomic bomb.

The United States Navy is to raise its Polaris ballistic missile submarine fleet to 45 units. This ultimate figure was revised upwards from 40 in 1960. About sixty per cent of these will be on station. Twenty-seven operational submarines each carrying 16 missiles would give the fleet the most terrific striking power the world has ever known.

No more conventionally powered submarines will be built for the United States Navy. In future all newly constructed submarines will be nuclear powered.

It is planned that by 1967 there will be a fleet of 75 nuclear powered submarines. By 1970 it is intended to have 150 ships with nuclear powered machinery plants and 200 ships armed with surface-to-air guided missiles. All combatant ships will be armed with anti-submarine missiles or equipped with anti-submarine aircraft.

However, the majority of the existing ships of the United States fleet are growing old. After nearly 20 years of strenuous use they are wearing out or have become obsolescent. A programme of ship replacement and modernisation is considered to be imperative in the highest U.S. Naval hierarchy.

Of 34 large aircraft carriers only 7 are of post-war design and construction (26 lighter war-built aircraft carriers also survive). Of 47 cruisers only one is of post-war design and construction. Of 372 completed destroyers only 20 are of post-war design and construction. Of 274 destroyer escorts only 17 are of post-war design and construction. And of 173 complete submarines only 34 are of post-war deisgn and construction.

But to keep the record straight it should be mentioned that many of the surviving war-built ships have been modernised, that construction has proceeded apace on the construction of the new category of DLs (frigates or destroyer leaders), that many minesweepers and amphibious ships have been built and a host of auxiliary naval vessels converted, and that a large number of warships have been built for foreign countries under the Mutual Defense Assistance Program.

Warships scrapped or sold during the year include two light carriers, 19 escort carriers, two battleships, two battle cruisers, four light cruisers, 24 destroyer escort transports, 30 submarines and many minesweepers and landing ships, all built during the Second World War.

Among the photographs added in the United States section are those of the modernised attack aircraft carrier *Coral Sea*, the converted guided missile cruisers *Little Rock* and *Providence*, the new guided missile frigate *Dewey*, the new guided missile destroyer *Charles F. Adams*, the reconstructed destroyers *John W. Thomason* and *Hazelwood*, the nuclear powered fleet ballistic missile submarines *George Washington* and *Patrick Henry*, the giant nuclear powered radar picket submarine *Triton*, and the nuclear powered guided missile submarine *Halibut*.

U.S.S.R.

Although the Soviet Navy is believed to have reduced her

total number of submarines from about 500 to 450 units for the time being, this is only because she has scrapped or given away old submarines of the smaller and coastal types and is concentrating on the construction of larger and more effective types. Doubtless, when the crews relieved from the older boats have undergone technical courses enabling them to operate the larger and more complicated nuclear powered and guided missile submarines coming forward, the reduction in numbers will be compensated by modern submarines emerging from the shipyards, and the Soviet submarine fleet will then consist largely of newer, larger and more operational units instead of including a proportion of old, small and reserve boats, and thus be more powerful than at any time in Soviet history.

Soviet leaders have said that the Soviet Navy have some nuclear powered submarines. In some quarters it is doubted whether they are operational but this ostrich-like attitude can hardly be reconciled with the success which attended the building and operation of the Soviet nuclear powered ice-breaker *Lenin*, of cruiser size, from which Soviet naval architects, marine engineers and nuclear physicists must have gained the required technical and scientific data for application to submarines.

It is also probably wishful thinking to deny the existence of Soviet submarines capable of firing guided missiles. It is obvious that the Soviet Navy has the intention of launching guided missiles from submarines for, according to the American Chief of Naval Operations, the United States has photographs of Soviet submarines which have ballistic missile tubes in them, and it is only common sense to assume that the U.S.S.R. is working very hard on the missiles themselves. What is perhaps more open to doubt is whether they can be fired submerged and whether they have a range as long as that of the Polaris projectile. But it would be unwise to assume, especially in view of Soviet success in astral rocketry, that the U.S.S.R. is any less capable than other nations in the field of hydrodynamic rocketry.

Among the new photographs in the Soviet section are those of the new "Z" class submarines and the nuclear powered icebreaker *Lenin*.

France

The new aircraft carrier *Clemenceau* has been completed and her sister ship *Foch* is nearing completion. These are the first aircraft carriers built in France and are of entirely post-war design and construction. A guided missile cruiser is projected. Among the new photographs in the French section are those of the new aircraft carrier *Clemenceau*, the new anti-submarine destroyer *La Galissoniere*, and the new dual purpose frigate *Commandant Rivière*.

Italy

A third guided missile escort cruiser is to be laid down. The design of the submarine killer type submarines *Alpino Bagnolini* and *Enrico Toti* has again been recast. Among the new photographs in the Italian section are those of the re-constructed guided missile cruiser *Giuseppe Garibaldi* on trials and the converted command ship *Grecale*.

Japan

The first guided missile destroyer is to be built in Japan, "Tartar" missiles being supplied from the U.S.A. The new 5-year defence plan calls for the construction in Japan of two anti-submarine helicopter carrier groups, each group consisting of one helicopter carrier and seven or eight screening ships. Japan plans to build up to 20 submarines. Two large destroyers have been completed in Japanese shipyards under a United States "off-shore" procurement agreement.

Germany

The Bundesmarine has launched two large destroyers and two fast frigates, and is to build five guided missile destroyers with a displacement approaching 6,000 tons. A large war-built U-boat sunk at the end of the war but raised in 1957 has been rebuilt and recommissioned under the name *Wilhelm Bauer*. Many new coastal minesweepers, motor torpedo boats and fast inshore minesweepers have been completed.

For its revision this year *Fighting Ships* is much indebted to the several Naval Boards, Navy Departments and Ministries of Marine and Defence who furnished information and photographs. In most instances this was facilitated by the kindness of the Ambassadors and Naval Attachès in London. The following may be particularly mentioned: Rear Admiral Victor B. Marchal, French Navy; Rear-Admiral Robert W. Cavenagh, United States Navy; Commodore N. O. J. Krokstedt, Royal Swedish Navy, Commodore Abhai Sitakalin, Royal Thai Navy, Captain Carlos A. Sañchez Sanudo, Argentine Navy, Captain Luiz Gonzaga Döring, Brazilian Navy; Captain Arturo K. Oxley, Chilean Navy; Captain Ramon Castro Jijon, Ecuadorian Navy; Captain M. H. Salminen, Finnish Navy; Captain E. G. Panas, Royal Hellenic Navy; Captain Emanuele Filiberto Perucca Orfei, Italian Navy; Captain Yoshio Takahashi, Defence Attaché, Japanese Embassy; Captain R. M. Crommelin, Royal Netherlands Navy; Captain Sjur N. Östervold, D.S.C., Royal Norwegian Navy; Captain Sr. Don Manuel Alderequia Amor, Spanish Navy; Captain Mithat Uler, Turkish Navy; Captain Armando de Pedraza Pereira, Venezuelan Navy; Captain Orfeo Ticac, Yugoslavian Navy; Colonel B. E. M. Léon Tancré, Naval Attaché, Belgian Embassy; Colonel B. Givli, Naval Attaché, Israeli Embassy; Commander A. Zimmermann, Federal German Navy; Commander R. Sardjoeno, Indonesian Navy; Commander Jaime Lopes, Portuguese Navy and Lt. Colonel Jens Borge Danielsen, Naval Attaché, Danish Embassy.

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Those who have photographs or information for the next edition, the preparation of which starts immediately, are invited to write as early in the year as possible, preferably not later than March, to The Editor, "Fighting Ships" care of Messrs. Sampson Low, Marston &. Co. Ltd., Potter Row, Great Missenden, Bucks, England. R.V.B.B.

GENERAL INDEX

(Named Ships only)

Abbreviations in ( ) following the name of the ship indicates the country. No abbreviation denotes Great Britain.

A	Argentine	Eg	Egypt	J	Japan	Ro	Roumania
Bel	Belgium	F	France	Kor	Korea	R.N.Z.N.	New Zealand
Br	Brazil	Finland	Finland	M	Malaya	Pak	Pakistan
Bul	Bulgaria	Ger	Germany	Mex	Mexico	Rus	U.S.S.R.
Bur	Burma	Gr	Greece	N	Netherlands	S.A.	South Africa
Cey	Ceylon	Haiti	Haiti	Nor	Norway	Sp	Spain
Chil	Chili	Hon	Honduras	Pan	Panama	Sw	Sweden
C	China	Hun	Hungary	Para	Paraguay	Th	Thailand
Col	Colombia	I	Italy	Per	Persia	T	Turkey
Cu	Cuba	Ice	Iceland	P	Peru	U.S.	United States
Da	Denmark	In	India	Phil	Philippines	Ur	Uruguay
Dom	Dominican Republic	Ind	Indonesia	Po	Poland	Ven	Venezuela
		Ir	Iraq	Port	Portugal	V.N.	Viet Nam
EA	East Africa	Iri	Ireland	R.A.N.	Australia	Yu	Yugoslavia
Ec	Ecuador	Is	Israel	R.C.N.	Canada	Zan	Zanzibar

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THE ROYAL NAVY

Board of Admiralty

The First Lord of the Admiralty:
The Right Honourable Lord Carrington, K.C.M.G., M.C.
The First Sea Lord and Chief of Naval Staff:
Admiral Sir Casper John, G.C.B.
The Second Sea Lord and Chief of Naval Personnel:
Vice-Admiral Sir St. John R. J. Tyrwhitt, Bt., C.B., D.S.O., D.S.C. and Bar
The Third Sea Lord and Controller:
Admiral Sir J. Peter L. Reid, K.C.B., C.V.O.
The Fourth Sea Lord and Vice Controller:
Rear-Admiral J. M. Villiers, C.B., O.B.E.
The Vice-Chief of Naval Staff:
Admiral Sir Walter T. Couchman, K.C.B., C.V.O., D.S.O., O.B.E.
The Deputy Chief of Naval Staff and Fifth Sea Lord:
Vice-Admiral L. G. Durlacher, C.B., O.B.E., D.S.C.
The Civil Lord:
Mr. Charles Ian Orr-Ewing, O.B.E., M.P.
The Permanent Secretary:
Sir John Gerald Lang, G.C.B.

Principal Admiralty Technical Officers not on the Board

The Director General, Ships:
Mr. A. J. Sims, O.B.E., M.I.N.A.
The Director General, Aircraft:
Rear-Admiral E. Mills, O.B.E.
The Director General, Weapons:
Rear-Admiral R. E. Washbourn, D.S.O., O.B.E.

Navy Estimates

1952-53: £332,250,000	1955-56: £340,500,080	1958-59: £339,400,000
1953-54: £329,500,000	1956-57: £348,840,000	1959-60: £370,700,000
1954-55: £353,000,000	1957-58: £316,000,000	1960-61: £397,500,000

Colour of Ships

Ships in commission: light grey hulls and superstructure with white topmasts. Ships in reserve: light grey overall. Submarines: Home, black; Mediterranean, royal blue; Far East, dark green. Destroyers, frigates, ocean minesweepers: Leaders have 4 ft. black band round top of first or visible funnel; divisional leaders now have no funnel markings. All ships have their flotilla number painted on funnel. Royal Fleet Auxiliaries have black hulls, light grey upperworks, light grey funnel with black top, except Fleet Train Ships, which conform to Fleet painting. Surveying vessels have white hulls and superstructure with buff masts and funnels. Ships on Persian Gulf or Red Sea stations have white hulls and superstructure. All ships, except surveying vessels, now have their pennant numbers painted on the side forward, usually abreast the bridge, and on the stern or transom (on the island superstructure in aircraft carriers, and on the conning tower in submarines).

Recognition Deck Letters of Aircraft Carriers

Ark Royal	R	*Albion*	A	*Magnificent*	G
Eagle	E	*Bulwark*	B	*Victorious*	V
Hermes	H	*Centaur*	C	*Leviathan*	L

Personnel

1952-53: 153,000	1955-56: 133,000	1958-59: 112,000
1953-54: 151,000	1956-57: 128,000	1959-60: 106,000
1954-55: 139,000	1957-58: 121,500	1960-61: 102,000

Mercantile Marine

Lloyd's Register of Shipping: 5,395 vessels of 20,756,535 tons *gross*

British Carrier Borne Aircraft

Name	*Maker*	*Type*	*Dimensions*	*Power Plant*	*Armament*	*Performance*
SEA HAWK FGA. Mk. 6	Armstrong Whitworth	Single-Seat Fighter/ Bomber	Wing Span 39 ft. Folded 13 ft. 4 in. Length 39 ft. 8 in.	One Rolls-Royce Nene 103 Turbojet	Four 20 mm. cannon. Bombs and Rocket Projectiles	Maximum Speed, 599 m.p.h. Range 580 miles
SEA VENOM FAW. Mk. 22	de Havilland	Two-Seat All-Weather Fighter	Wing Span 42 ft. 10 in. Length 36 ft. 7¼ in.	One de Havilland Ghost 105 Turbojet	Four 20 mm. cannon. Rockets or bombs	Maximum Speed, 575 mp..h. Range, 705 miles
SEA VIXEN FAW. Mk. 1	de Havilland	Two-Seat Day and Night All-Weather Fighter	Wing Span 50 ft. Folded 22 ft. 3 in. Length 53 ft. 6½ in.	Two Rolls - Royce Avon 200 Turbojets	Firestreak Guided Missiles and bombs or rockets	Maximum Speed over 700 m.p.h.
SCIMITAR F. Mk. 1	Supermarine	Single-Seat Fighter and Strike Aircraft	Wing Span 37 ft. 2 in. Folded 20 ft. Length 55 ft. 4 in.	Two Rolls - Royce Avon 200 Turbojets	Four 30 mm. cannon. Bombs, rockets or Nuclear Weapons	Maximum Speed, 710 m.p.h.
N.A. 39	Blackburn	Strike Aircraft	Wing Span 42 ft. 6 in. Folded 20 ft. Length 62 ft. 4 in.	Two de Havilland Gyron Junior Turbojets	Nuclear Weapons	Speed in transonic range at low altitudes
GANNET AEW. Mk. 3	Fairey	Three - Seat Early Warning Aircraft	Wing Span 54 ft. 4 in. Folded 19 ft. 6 in. Length 43 ft.	One Bristol Siddeley Double Mamba Turboprop	None	
WHIRLWIND Mks. 1, 3, 5, 7, 21 and 22	Westland and Sikorsky (U.S.A.)	Multi-Seat Helicopter	Rotor dia: 53 ft. Fuselage length 41 ft. 8½ in.	One Pratt and Whitney, Wright or Alvis Leonides Engine	Anti-Submarine Weapons	Maxiumm Speed, 110 m.p.h. Range 300 to 335 miles
WESSEX Mk. 1	Westland	Multi-Seat Anti-Submarine and Transport Helicopter	Fuselage Length 56 ft. 7½ in. Rotor dia.: 56 ft.	One Napier Gazelle NGA.13 Shaft-Turbine Engine	Anti-Submarine Weapons	Maximum Speed, 144 m.p.h. Range 390 miles
SKYRAIDER AEW Mk. 1 (Being replaced)	Douglas (U.S.A.)	Three - Seat Early Warning Aircraft	Wing Span 50 ft. 0¼ in. Folded 24 ft. Length 39 ft. 3¾ in.	One Wright R.3350-26W Cyclone Engine	None	Maximum Range, 3,000 miles

British Naval Guided Missiles

Type	*Name*	*Maker*	*Length ft.*	*Propulsion*	*Speed mach.*	*Range miles*	*Guidance System*	*Notes*
SURFACE-TO-AIR	Seacat	Short Bros. & Harland	4.85	Solid propellent			Radio command	Close range anti-aircraft missile
	Seaslug	Armstrong Whitworth	19·5	I.C.I. Solid propellant and solid boosters			Beam-rider	To be carried by County Class escorts. May be developed as a Surface to Surface weapon. H.E. or nuclear warhead
AIR-TO-AIR	Firestreak	de Havilland Propellers	10·5	Solid propellent			Infra-red	Carried by Sea Vixen fighters

LIST OF PENNANT NUMBERS

Note:—A few of the ships listed below are on the sales list or have been earmarked for disposal, but their pennant numbers have been retained in this edition for reference and identification until they are actually broken up ; and a few ships listed are not yet completed.

Aircraft Carriers, Cruisers, Minelayers, Headquarters Ships, etc., Destroyers, Frigates

R Flag Superior:

R 05 Eagle
R 06 Centaur
R 07 Albion
R 08 Bulwark
R 09 Ark Royal
R 12 Hermes
R 38 Victorious

C Flag Superior:

C 08 Swiftsure
C 14 Kenya
C 20 Tiger
C 24 Sheffield
C 25 Superb
C 34 Lion
C 35 Belfast
C 48 Gambia
C 52 Bermuda
C 80 Mauritius
C 99 Blake

N Flag Superior

N 01 Apollo
N 11 Miner I
N 12 Gossamer
N 13 Miner III
N 14 Miner IV
N 16 Miner VI
N 17 Miner VII
N 18 Miner VIII
N 25 Stonechat
N 26 Plover
N 65 Ariadne
N 69 Linnet
N 70 Manxman

A Flag Superior

A 118 Artifex
A 134 Rame Head
A 145 Guardian
A 146 Protector
A 153 Ausonia
A 158 Duncansby Head
A 164 Adamant
A 180 Woolwich
A 185 Maidstone
A 187 Forth
A 191 Berry Head
A 194 Tyne
A 200 Vidal
A 219 Dodman Point
A 225 Mull of Galloway
A 226 Mull of Kintyre
A 231 Reclaim
A 239 Ranpura
A 262 Hartland Point
A 387 Girdle Ness
A 302 Dalrymple
A 303 Dampier
A 307 Cook
A 308 Scott
A 310 Shackleton
A 311 Qwen

D Flag Superior:

D 01 Caprice.
D 02 Devonshire
D 03 Concord.
D 05 Daring.
D 06 Hampshire
D 07 Caesar.
D 09 Dunkirk.
D 10 Cassandra.
D 12 Kent
D 14 Armada.
D 15 Cavendish.
D 16 London
D 17 Alamein.
D 18 St. Kitts.
D 22 Aisne.
D 24 Gravelines.
D 25 Carysfort.
D 26 Comet.
D 30 Carron.
D 31 Broadsword.
D 32 Camperdown.
D 34 Cockade.
D 35 Diamond.
D 36 Chieftain.
D 43 Matapan.
D 44 Lagos.
D 51 Chevron.
D 52 Chaplet.
D 55 Finisterre.
D 60 Sluys.
D 61 Chequers.
D 62 Jutland.
D 64 Scorpion.
D 65 St. James.
D 68 Barrosa.
D 70 Solebay.
D 73 Cavalier.
D 76 Consort.
D 77 Trafalgar.
D 80 Barfleur.
D 84 Saintes.
D 85 Cambrian.
D 86 Agincourt.
D 90 Cheviot.
D 91 Childers
D 96 Crossbow.
D 97 Corunna.
D 106 Decoy.
D 108 Dainty.
D 114 Defender.
D 118 Battleaxe.
D 119 Delight.
D 126 Diana.
D 154 Duchess.
D 231 Vigo.
D 248 Obedient.

F Flag Superior:

F 08 Urania.
F 09 Troubridge.
F 14 Leopard.
F 17 Ulysses.
F 19 Terpsichore.
F 20 Snipe.
F 23 Teazer.
F 26 Petard.
F 27 Lynx.
F 29 Verulam.
F 32 Salisbury
F 34 Puma.
F 36 Whitby.
F 37 Jaguar.
F 41 Volage.
F 42 Modeste.
F 43 Torquay.
F 44 Tenacious.
F 48 Dundas.
F 49 Pheasant.
F 50 Venus.
F 51 Grafton.
F 53 Undaunted.
F 54 Hardy.
F 59 Chichester.
F 61 Llandaff.
F 62 Pellew.
F 63 Scarborough.
F 65 Tenby.
F 66 Starling.
F 67 Tyrian.
F 69 Redpole.
F 70 Farndale.
F 72 Wizard.
F 73 Eastbourne.
F 76 Virago.
F 77 Blackpool.
F 78 Blackwood.
F 79 Brissenden.
F 80 Duncan.
F 83 Ulster.
F 84 Exmouth.
F 85 Keppel.
F 88 Malcolm.
F 91 Murray.
F 93 Vigilant.
F 94 Palliser.
F 97 Russell.
F 98 Orwell.
F 99 Lincoln.
F 101 Yarmouth
F 102 Zest.
F 103 Lowestoft
F 104 Hastings
F 106 Brighton
F 107 Rothesay
F 108 Londonderry
F 109 Weymouth
F 113 Falmouth
F 114 Fowey
F 115 Berwick
F 117 Ashanti
F 118 Talybont.
F 119 Eskimo
F 121 Tumult.
F 122 Gurkha
F 123 Crane.
F 124 Zulu
F 125 Mohawk
F 126 Plymouth
F 127 Coventry
F 129 Rhyl
F 131 Nubian
F 133 Tartar
F 138 Rapid.
F 141 Undine.
F 142 Brocklesby
F 155 Ballinderry.
F 156 Tuscan.
F 159 Wakeful.
F 169 Paladin.
F 176 Brecon.
F 185 Relentless.
F 187 Whirlwind.
F 189 Termagant.
F 193 Rocket.
F 195 Roebuck.
F 196 Urchin.
F 197 Grenville.
F 200 Ursa.
F 286 Amberley Castle.
F 372 Rushen Castle.
F 388 Dumbarton Castle.
F 390 Loch Fada.
F 391 Loch Killin.
F 413 Farnham Castle.
F 425 Loch Dunvegan.
F 428 Loch Alvie.
F 429 Loch Fyne.
F 433 Loch Insh.
F 436 Surprise.
F 437 Loch Lomond.
F 449 Pevensey Castle.
F 600 St. Bride's Bay.
F 609 Loch Craigie.
F 620 Loch Gorm.
F 624 Morecambe Bay.
F 627 Mounts Bay.
F 628 Loch Killisport.
F 630 Cardigan Bay.
F 639 Loch More
F 645 Loch Ruthven.
F 647 Alert.
F 655 Loch Tralaig
F 650 Porlock Bay.
F 658 Loch Veyatie.
F 691 Lancaster Castle.
F 692 Oxford Castle.
F 693 Morpeth Castle.

PENNANT NUMBERS—*continued*

Submarines, Landing Ships, Escort Minesweepers, Coastal Minesweepers, Inshore Minesweepers, etc.

S Flag Superior:

S 01 Porpoise.
S 02 Rorqual.
S 03 Narwhal.
S 04 Grampus.
S 05 Finwhale.
S 06 Cachalot.
S 07 Sealion.
S 08 Walrus.
S 09 Auriga.
S 11 Acheron.
S 12 Trespasser.
S 14 Tactician.
S 15 Alcide.
S 16 Alderney.
S 17 Alliance.
S 18 Ambush.
S 19 Oberon
S 20 Odin
S 22 Anchorite.
S 23 Andrew.
S 25 Thule.
S 26 Aurochs.
S 27 Aeneas.
S 28 Token.
S 29 Spiteful
S 30 Explorer.
S 31 Trenchant.
S 32 Tiptoe.
S 33 Trump.
S 34 Taciturn.
S 35 Tapir.
S 37 Talent.
S 38 Teredo.
S 40 Excalibur.
S 41 Alaric.
S 42 Tabard.
S 43 Amphion.
S 44 Sea Devil.
S 45 Orpheus
S 46 Olympus
S 47 Astute.
S 49 Artemis.
S 50 Osiris
S 52 Totem.
S 53 Truncheon.
S 54 Turpin.
S 55 Thermopylae
S 56 Sentinel.
S 57 Onslaught
S 58 Scorcher.
S 59 Otter
S 60 Oracle
S 62 Solent.
S 77 Tireless.
S 80 Dreadnought
S 87 Tallyho.
S 89 Seraph.
S 96 Artful.
S 102 Shrimp.
S 103 Sprat.
S 104 Minnow.
S 126 Tudor.
S 143 Scotsman.
S 153 Sea Scout.

L Flag Superior

L 369 Meon
L 3003 Anzio.
L 3016 Dieppe
L 3027 Lofoten.
L 3029 Chaser
L 3036 Puncher.
L 3043 Messina.
L 3044 Narvik.
L 3101 Ben Nevis.
L 3505 Ravager.
L 3511 Reggio.
L 3513 Salerno.
L 3515 Stalker.
L 3516 Striker.
L 3518 Suvla.
L 3522 Tracker.
L 3532 Zeebrugge

M Flag Superior:

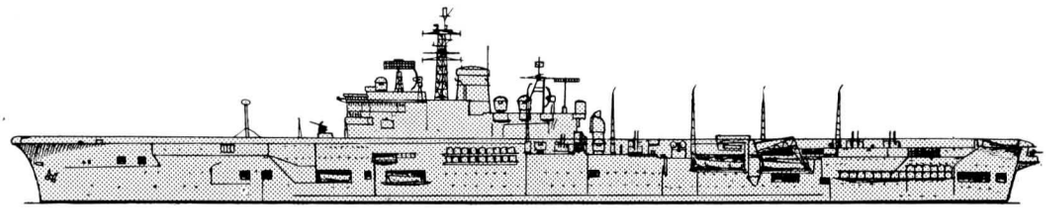
M 01 Albacore.
M 11 Bramble.
M 29 Cockatrice.
M 46 Pluto.
M 73 Niger.
M 88 Cheerful.
M 106 Acute.
M 216 Espiegle.
M 221 Onyx.
M 225 Rinaldo.
M 227 Mutine.
M 276 Lennox.
M 277 Orestes.
M 294 Pincher
M 295 Plucky.
M 298 Recruit.
M 299 Rifleman.
M 304 Waterwitch.
M 307 Hound.
M 341 Wiay.
M 376 Golden Fleece.
M 383 Tanganyika.
M 385 Wave.
M 386 Welcome.
M 387 Chameleon.
M 390 Jewel.
M 424 Sandray.
M 427 Sursay.
M 429 Ronay.
M 432 Vaceasay.
M 452 Tahay.
M 456 Nerissa.
M 1101 Coniston
M 1102 Alcaston
M 1103 Alfriston
M 1104 Thames
M 1105 Amerton
M 1106 Appleton
M 1107 Beachampton
M 1108 Bevington
M 1109 Curzon
M 1110 Bildeston
M 1111 Edderton
M 1112 Warsash
M 1113 St. David
M 1114 Brinton
M 1115 Broningtón
M 1116 Burnaston
M 1117 Venturer
M 1118 Calton
M 1119 Carhampton
M 1120 Caunton
M 1121 Chediston
M 1122 Chilcompton
M 1123 Clarbeston
M 1124 Clyde
M 1125 Cuxton
M 1126 Dalswinton
M 1128 Killiekrankie
M 1129 Oulston
M 1130 Highburton
M 1131 Hickleton
M 1132 Blaxton
M 1133 Bossington
M 1134 Essington
M 1135 Fenton
M 1136 Fittleton
M 1137 Flockton
M 1138 Floriston
M 1139 Somerleyton
M 1140 Gavinton
M 1141 Glasserton
M 1143 Hexton
M 1145 Dufton
M 1146 Hodgeston
M 1147 Hubberston
M 1148 Ilmington
M 1149 Badminton
M 1150 Invermoriston
M 1151 Iveston
M 1152 Jackton
M 1153 Kedleston
M 1154 Kellington
M 1155 Monkton
M 1156 Kemerton
M 1157 Kilmorey
M 1158 Laleston
M 1159 Lanton
M 1160 Letterston
M 1161 Leverton
M 1162 Kildarton
M 1163 Lullington
M 1164 Maddiston
M 1165 Maxton
M 1166 Montrose
M 1167 Repton
M 1168 Dilston
M 1169 Penston
M 1170 Picton
M 1171 Aldington
M 1172 Thankerton
M 1173 Mersey
M 1174 Puncheston
M 1175 Northumbria
M 1176 Rennington
M 1177 Roddington
M 1178 Santon
M 1179 Sefton
M 1180 Shavington
M 1181 Sheraton
M 1182 Shoulton
M 1183 Singleton
M 1184 Sullington
M 1185 Swanston
M 1186 Tarlton
M 1187 Upton
M 1188 Walkerton
M 1189 Wasperton
M 1192 Wilkieston
M 1193 Wolverton
M 1194 Woolaston
M 1195 Wotton
M 1196 Yarnton
M 1198 Ashton
M 1199 Belton
M 1200 Soberton
M 1202 Maryton
M 1203 Dartington
M 1204 Stubbington
M 1205 Wiston
M 1206 Fiskerton
M 1208 Lewiston
M 1209 Chawton
M 1211 Houghton
M 1216 Crofton
M 2001 Dingley
M 2002 Aveley
M 2003 Brearley
M 2004 Brenchley
M 2005 Brinkley
M 2007 Watchful
M 2008 Squirrel
M 2009 Chailey
M 2010 Cradley
M 2601 Inglesham
M 2603 Arlingham
M 2605 Bassingham
M 2608 Blunham
M 2609 Bodenham
M 2610 Boreham
M 2611 Bottisham
M 2613 Brigham
M 2614 Bucklesham
M 2615 Cardinham
M 2616 Chelsham
M 2617 Chillingham
M 2618 Cobham
M 2619 Darsham
M 2620 Davenham
M 2621 Dittisham
M 2622 Downham
M 2624 Elsenham
M 2625 Etchingham
M 2626 Everingham
M 2627 Felmersham
M 2628 Flintham
M 2629 Damerham
M 2630 Fritham
M 2631 Glentham
M 2632 Greetham
M 2633 Halsham
M 2634 Harpham
M 2635 Haversham
M 2636 Lasham
M 2637 Hovingham
M 2701 Cranham
M 2706 Ledsham
M 2708 Ludham
M 2710 Mickleham
M 2712 Neasham
M 2713 Nettleham
M 2714 Ockham
M 2716 Pagham
M 2717 Fordham
M 2720 Powderham
M 2721 Isis
M 2722 Rackham
M 2723 Reedham
M 2726 Shipham
M 2727 Saxlingham
M 2728 Shrivenham
M 2729 Sidlesham
M 2733 Thakeham
M 2735 Tongham
M 2736 Tresham
M 2737 Warmingham
M 2777 Wintringham
M 2778 Woldingham
M 2779 Wrentham
M 2780 Yaxham
M 2781 Portisham
M 2782 Popham
M 2783 Odiham
M 2784 Puttenham
M 2785 Birdham
M 2786 Rampisham
M 2787 Abbotsham
M 2788 Georgeham
M 2790 Thatcham
M 2791 Sandringham
M 2792 Polsham
M 2793 Thornham

P Flag Superior:

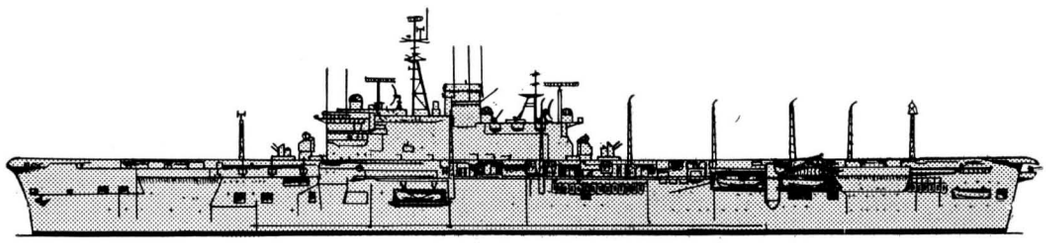
P 05 Rosalind
P 41 Tiree.
P 43 Fetlar.
P 55 Steepholm.
P 58 Woodbridge Haven.
P 71 Moorgate.
P 190 Laymoor
P 191 Layburn
P 200 Barfoss.
P 201 Barbain.
P 202 Barfoot.
P 204 Barhill.
P 207 Barcliffe.
P 209 Barcastle.
P 211 Barholm.
P 212 Barcroft.
P 214 Barbecue.
P 215 Barnedale.
P 216 Barglow.
P 218 Barleycorn.
P 219 Barmouth.
P 223 Moorpout
P 224 Barspear.
P 227 Barkis.
P 232 Barmond.
P 234 Barova.
P 235 Barthorpe.
P 237 Barnaby.
P 238 Barnehurst
P 239 Barlake
P 240 Barrhead.
P 241 Barnard.
P 242 Barbette.
P 243 Barbican.
P 244 Barfield.
P 245 Barbridge
P 252 Barcote.
P 254 Barrage.
P 258 Barwind.
P 259 Barrington.
P 261 Bartizan.
P 262 Baron.
P 265 Barranca.
P 270 Barbourne.
P 271 Bardolf.
P 274 Barclose.
P 275 Barsing.
P 276 Barbastel.
P 277 Barcock.
P 281 Barking.
P 282 Barfoam.
P 284 Moorsman.
P 287 Barcarole.
P 289 Barsound.
P 290 Barfount.
P 294 Barfoil.
P 297 Barnestone.
P 298 Barrier.

SILHOUETTES

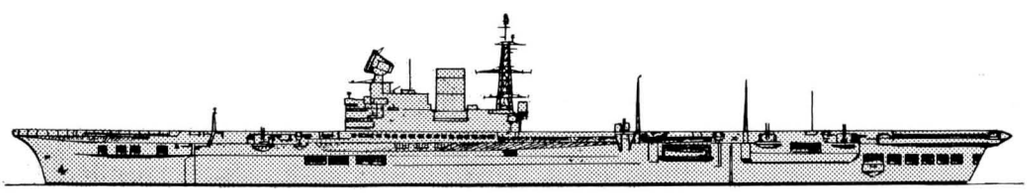
Scale: 150 ft. = 1 inch



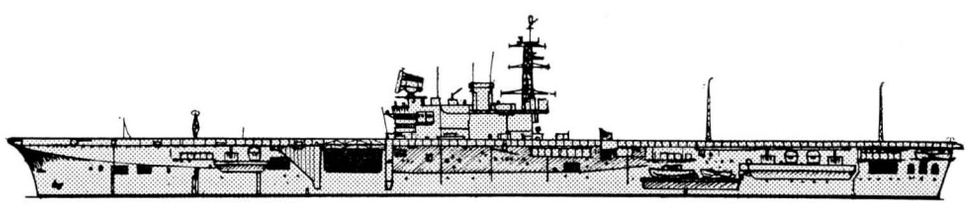
ARK ROYAL (after refit)



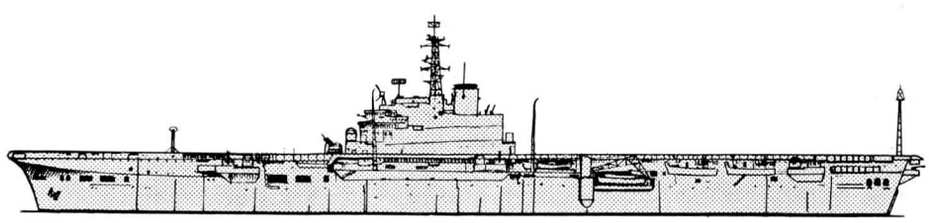
EAGLE



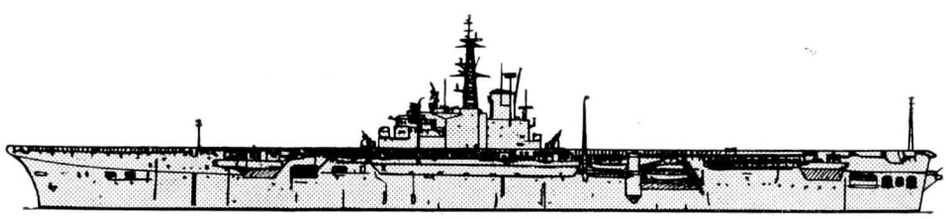
VICTORIOUS



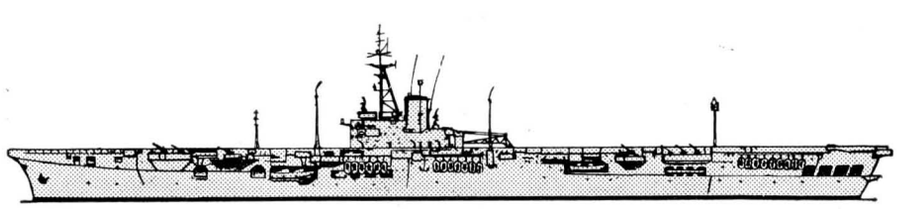
HERMES



BULWARK (after conversion)



ALBION, CENTAUR



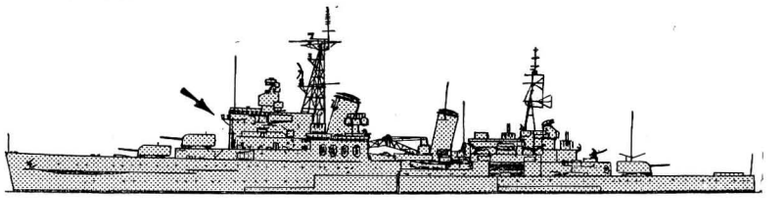
MAGNIFICENT

Silhouettes—*continued*

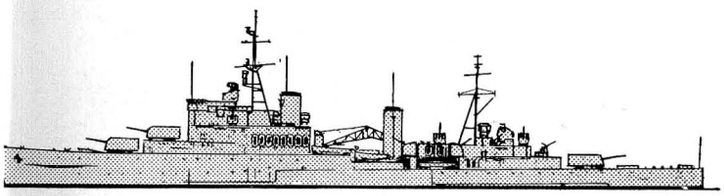
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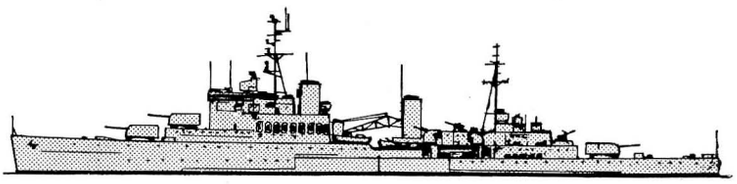
TIGER



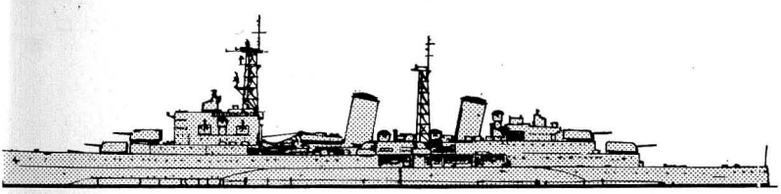
SHEFFIELD



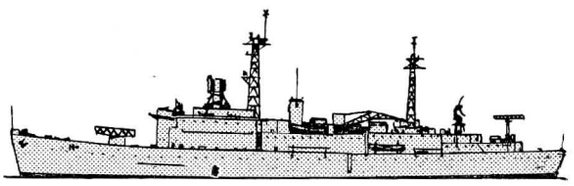
BERMUDA



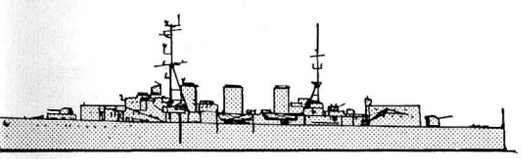
GAMBIA



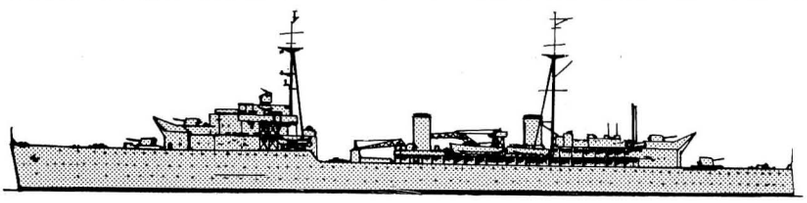
BELFAST



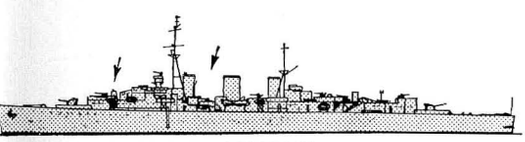
GIRDLENESS (G.M. Trials Ship)



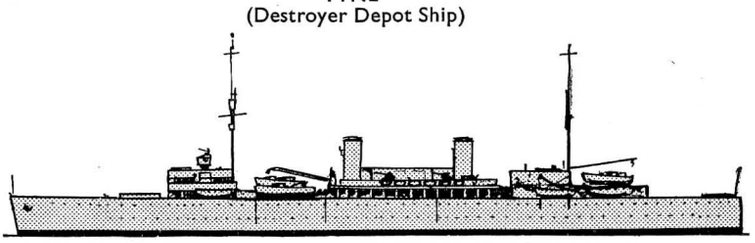
APOLLO



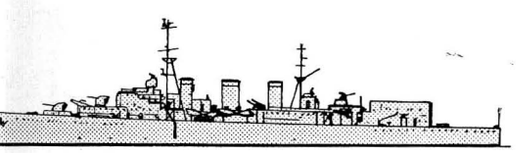
TYNE
(Destroyer Depot Ship)



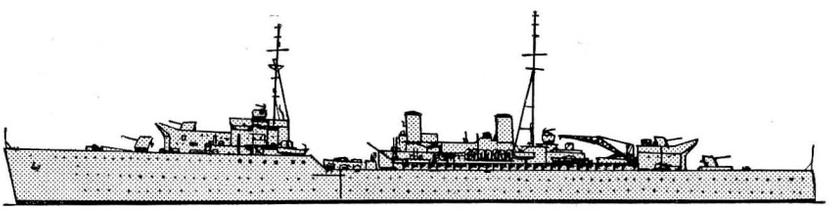
ARIADNE



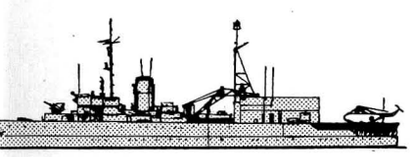
WOOLWICH
(Destroyer Depot Ship)



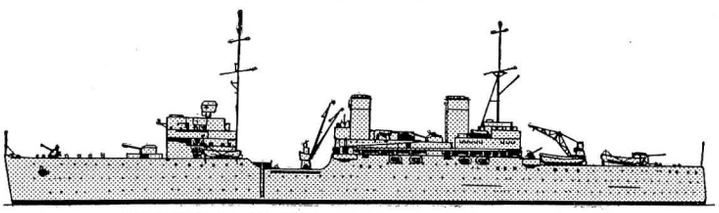
MANXMAN



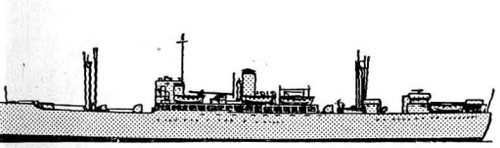
ADAMANT
(Submarine Depot Ship)



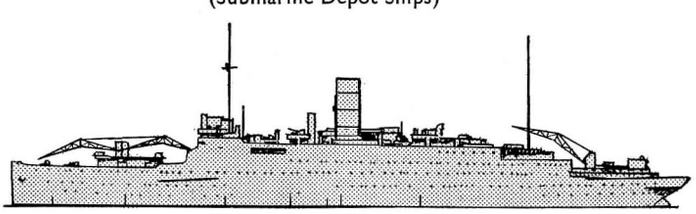
PROTECTOR (Ice Patrol Ship, ex-Netlayer)



MAIDSTONE. FORTH without gun in bows
(Submarine Depot Ships)



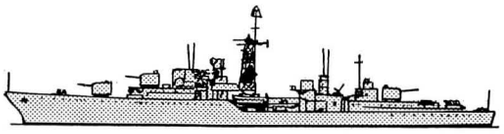
"FORT" *Class.* (Fleet Supply Ships)
"MULL" and "HEAD" Classes similar



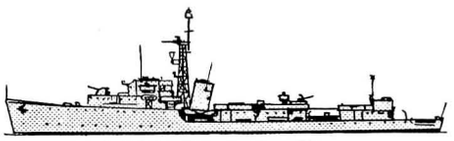
AUSONIA
(Heavy Repair Ship)

Silhouettes—*continued*

Scale: 150 ft. = 1 inch.



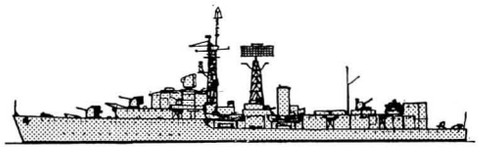
DARING *Class*



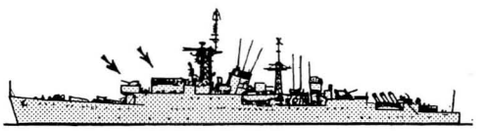
ORWELL *Type.* (Fast Frigates.
Smaller Limited Conversion from Destroyers)



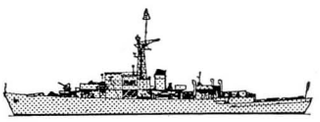
LOCH ALVIE *Type*



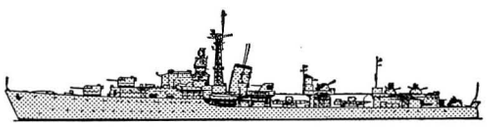
" WEAPON " *Class*
(as converted to Radar Pickets)



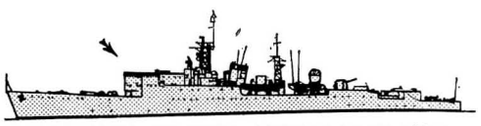
TROUBRIDGE, ULSTER, ZEST (Full Conversion
Frigate bridge, gun on break)



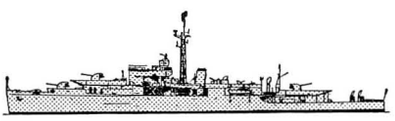
" CASTLE " *Class*



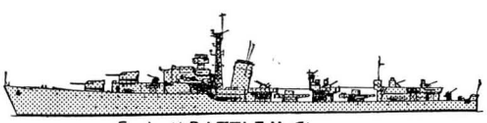
Later " BATTLE " *Class*



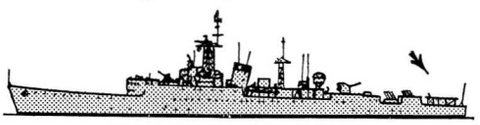
ROEBUCK, URCHIN, VENUS, VIGILANT
Enlarged bridge and deckhouse



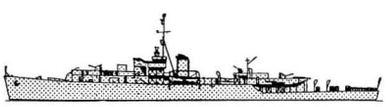
BLACK SWAN *Class*



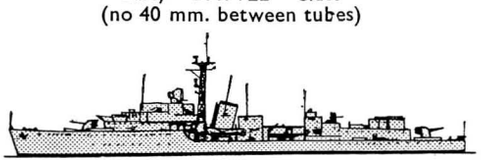
Early " BATTLE " *Class*
(no 40 mm. between tubes)



GRENVILLE, UNDAUNTED
with helicopter platform aft



" RIVER " *Class*



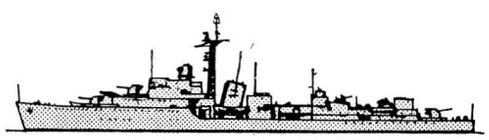
CARRON



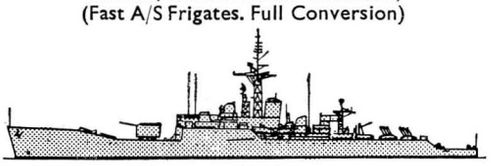
RAPID, RELENTLESS ROCKET,
(Fast A/S Frigates. Full Conversion)



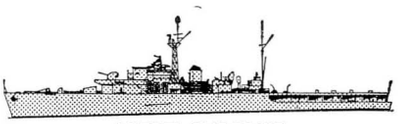
ATHERSTONE *Class*
("HUNT " Group, Type I)



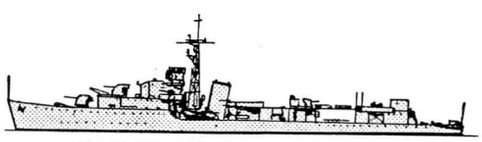
CAVENDISH and CAVALIER
Superstructure extended aft, modified bridge



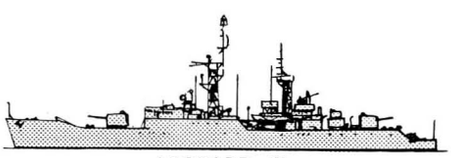
WHITBY *Class*
with modified raked funnel



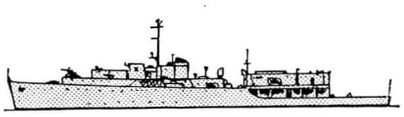
ALERT, SURPRISE
(Despatch Vessels) Modified Frigates



CHAPLET. With minelaying chutes
Tubes and gun aft removed



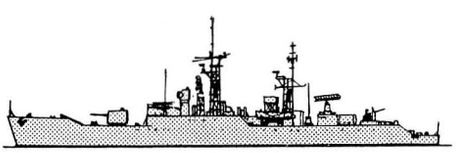
LEOPARD *Class*



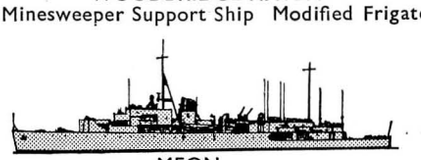
WOODBRIDGE HAVEN
Minesweeper Support Ship Modified Frigate



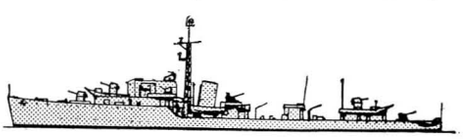
CHEQUERS, CHEVIOT, COCKADE
Two squids, handling room instead of " X " gun



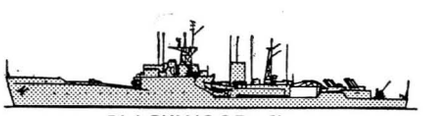
SALISBURY *Class*



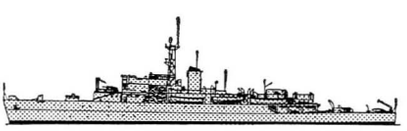
MEON
(Landing Ship Headquarters) Modified Frigate



OBEDIENT



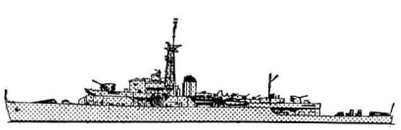
BLACKWOOD *Class*



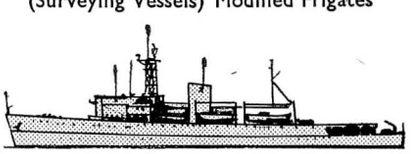
Cook *Class* (DALRYMPLE, deckhouse aft)
(Surveying Vessels) Modified Frigates



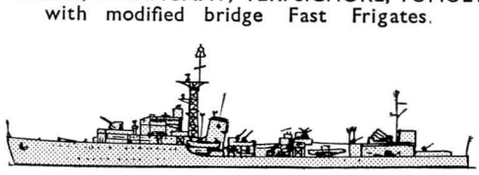
TEAZER, TERMAGANT, TERPSICHORE, TUMULT,
with modified bridge Fast Frigates.



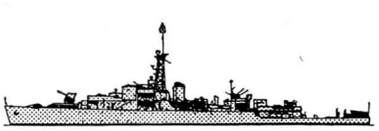
" BAY " *Class*



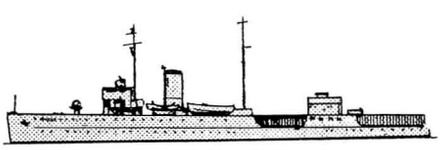
VIDAL (Surveying Vessel)



TENACIOUS *Type.* (Fast Frigates.
Limited Conversion from Destroyers)

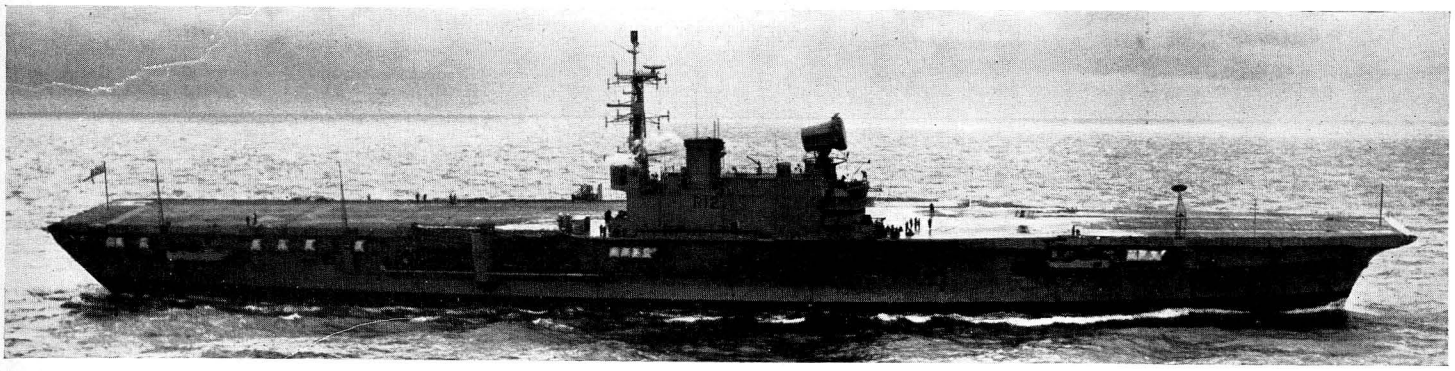


" LOCH " *Class*

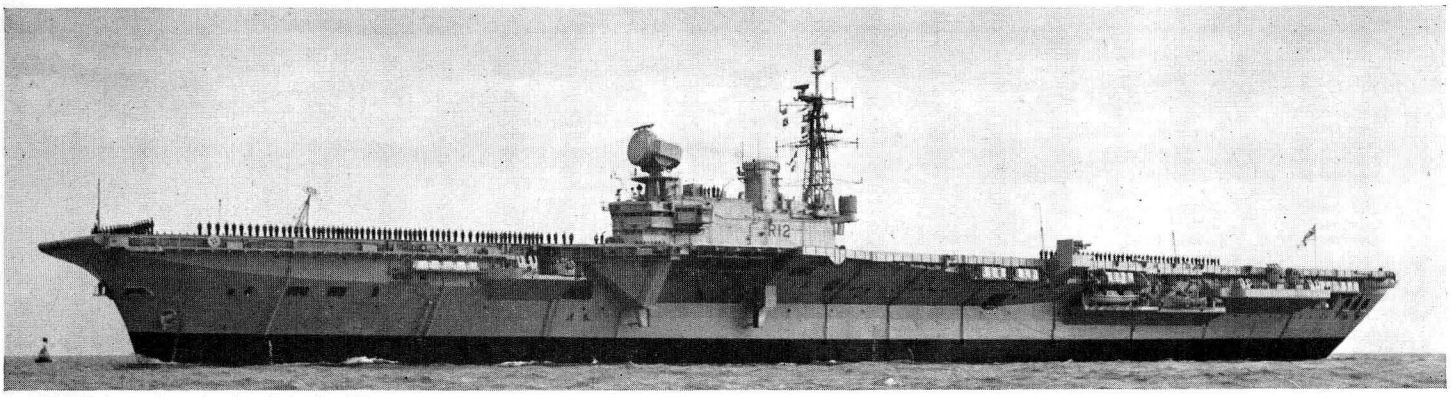


GUARDIAN (Netlayer)

AIRCRAFT CARRIERS



HERMES (starboard view) 1960, *Official*



HERMES (port view, showing deck-edge lift) 1960, *Wright & Logan*

1 " Hermes " Class (Modernised)

HERMES (ex-*Elephant*)

Recognition	
Deck Letter:	H
Pennant No.:	R 12
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness
Laid down:	21 June 1944
Launched:	16 Feb. 1953
Completed:	18 Nov. 1959
Displacement:	23,000 tons *standard*, 27,800 tons *full load*
Dimensions:	Length: 650 (*pp.*), 744¼ (*o.a.*) feet Beam (*hull*): 90 feet; beam (*overall*): 144½ feet. Draught: 28 feet
Guns:	10—40 mm. AA. (twin),
Aircraft:	45
Catapults:	2 steam
Machinery:	Parsons geared steam turbines. 2 shafts. S.H.P.: 78,000=28 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	1,834 peace complement (190 officers, 1,644 men) 2,100 with air squadrons embarked

General Notes

Hermes is known as the " Hermes " Class (Modernised), to distinguish her from the " Centaur " Class, of which she was originally a sister ship (and name ship), as her design has been modified so much, and she is virtually of a different type: in many ways she is more advanced than the earlier ships of the class and incorporates new equipment and improved arrangements, including five post-war developments—the angled deck, the steam catapult, the mirror landing sight, the 3-D radar, and the deck-edge lift. Her arrangements and equipment are of similar standard to the improvements in the reconstructed aircraft carrier *Victorious*. She is air-conditioned throughout. The ship was manned for trials on 23 Oct. 1959, accepted from her builders on 18 Nov. 1959, commissioned for service with the Royal Navy on 25 Nov. 1959, and after her shake-down cruises and full programme of working-up trials embarked her air squadrons and joined the Fleet in the summer of 1960.

Flight Deck Notes

The flight deck is angled to 6½ degrees off the centre line of the ship, the biggest angle that can be practically contrived in an aircraft carrier of the size.

Engineering Notes

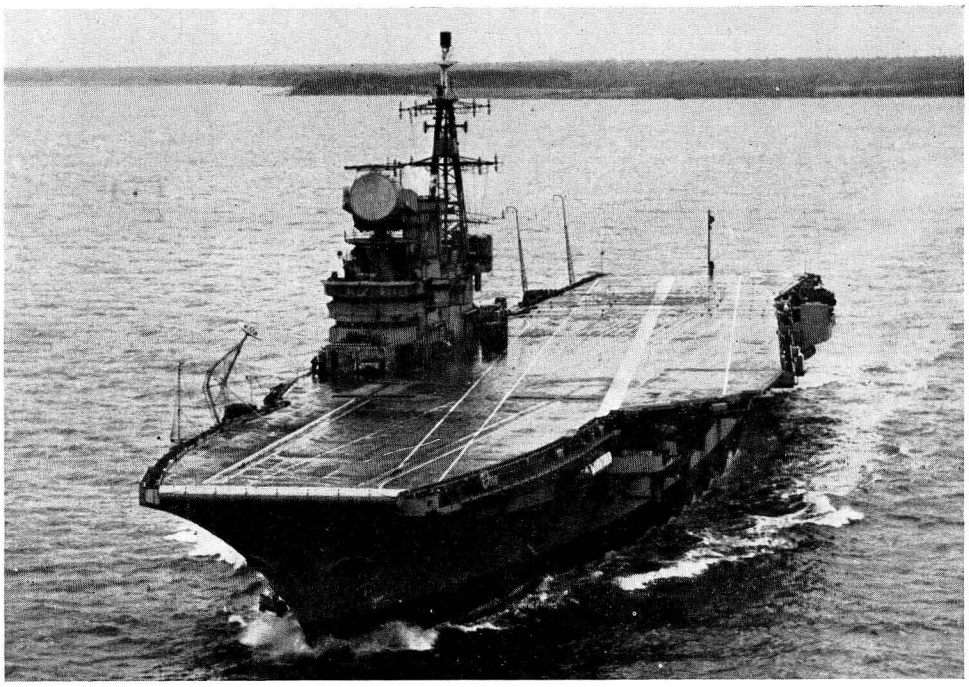
The ship has the latest system of remote control for her engines, coupled with automatic feed for her boilers, whereby with the entire complement of officers and men under cover and protected in " the citadel," a self-contained section of the ship proof against radio-active fall-out, the ship can be safely steamed through an atomic cloud.

Electrical Notes

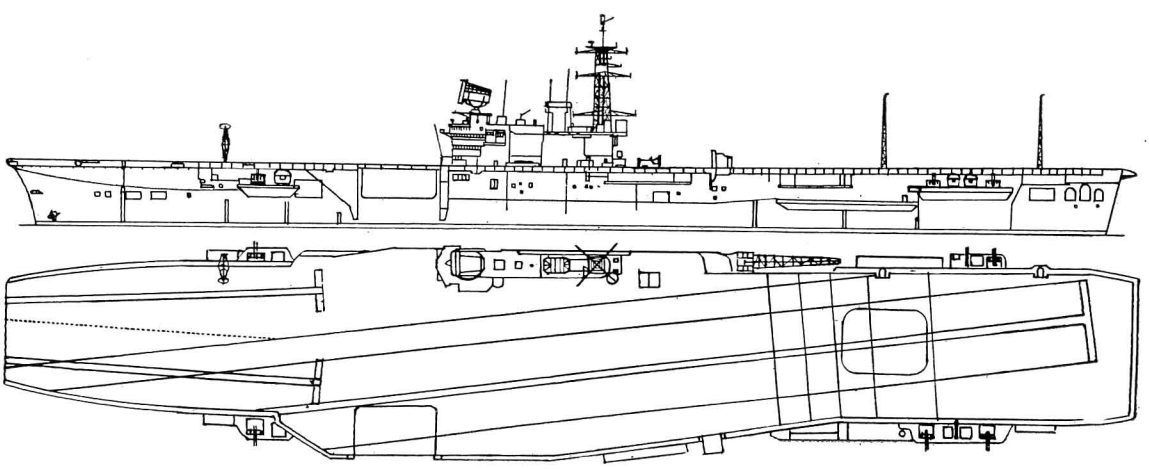
The electrical plant is a 440 volt, 3 phase, 60 cycle A.C. installation, with a generating capacity of 5,440 kW—the largest power station afloat today in the Royal Navy.

Notes to Drawing

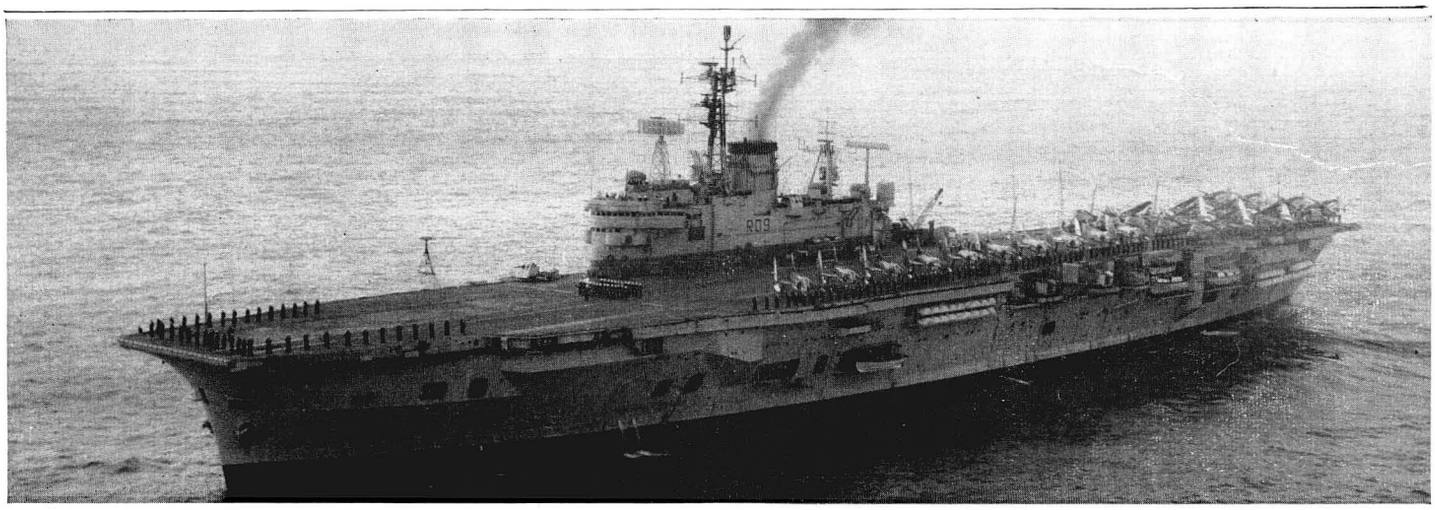
Port elevation and plan. Drawn in 1960. Scale: 128 feet=1 inch.



HERMES (port bow oblique aerial view, showing angled deck) 1960, *Official*



Aircraft Carriers—*continued*



ARK ROYAL (port view, showing side lift removed) 1960, *Official*

ARK ROYAL (ex-*Irresistible*)

Recognition	
Deck Letter:	R
Pennant No.:	R 09
Builders and Engineers:	Cammell Laird & Co. (Shipbuilders & Engineers), Ltd., Birkenhead
Laid down:	3 May 1943
Launched:	3 May 1950
Completed:	25 Feb. 1955
Displacement:	43,340 tons *standard* (53,340 tons *full load*). Officially revised figures
Dimensions:	Length: 720 (*pp.*), 808½ (*o.a.*) feet. Beam (*waterline*): 112¾ feet. Beam (*overall*): 158 feet. Draught: 36 (*max.*) feet
Guns:	8—4·5 inch d.p.; 34—40 mm. Bofors AA. (4 6-barrelled, 2 twin, 6 single); 4—3 pdr. (see notes)
Aircraft:	Over 50 in peacetime
Catapults:	2 Steam
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 152,000 =31·5 kts.
Boilers:	8 Admiralty 3-drum type, working at 400 lb. per sq. in. pressure and 600 degrees Fahrenheit of superheat
Oil fuel:	5,500 tons
Complement:	1,632 to 1,745 (including the ship's air complement, but excluding the complements of attached squadrons) in peacetime. (2,295 to 2,345 with front line squadrons embarked)

General Notes

Largest aircraft carrier ever built for the Royal Navy. Fitted with latest equipment for operating fast and heavy jet aircraft, including 5½ degrees angled deck, two lifts on the centre line, two steam catapults, two mirror deck landing sight sponsons, new type of arrester gear, and improved hangar ventilation. First British aircraft carrier to be provided with steam catapults and associated installation. Largest ship ever built by Cammell Laird. Began contractors' sea trials on 4 June 1954. First commissioned on 22 Feb. 1955. Had first side lift to be installed in an aircraft carrier of the Royal Navy; it was situated amidships on the port side and served the upper hangar. Cost £21,428,000. Refitted in 1959, when the side lift was removed, the deck park provided by the angled deck having, to a large extent, done away with its necessity, and a new lattice stump mast for a larger radar scanner was stepped abaft the bridge.

Appearance Notes.

Easily distinguishable from sister ship *Eagle* by lattice mast and different arrangement of guns, sponsons, etc., on the port side.

Gunnery Notes.

Originally mounted 16—4·5 inch guns in eight twin turrets two on each beam forward and two on each beam aft, but the four 4·5 inch dual purpose guns in two twin turrets on the port side forward, temporarily plated over to provide the termination of the angled deck, were removed entirely in 1956 to allow for unimpeded flying off. The 6-barrelled 40 mm. Bofors anti-aircraft mounting before the bridge was also removed. The four 4·5 inch guns in two twin turrets on the starboard side forward were removed in 1959.

Photograph Notes

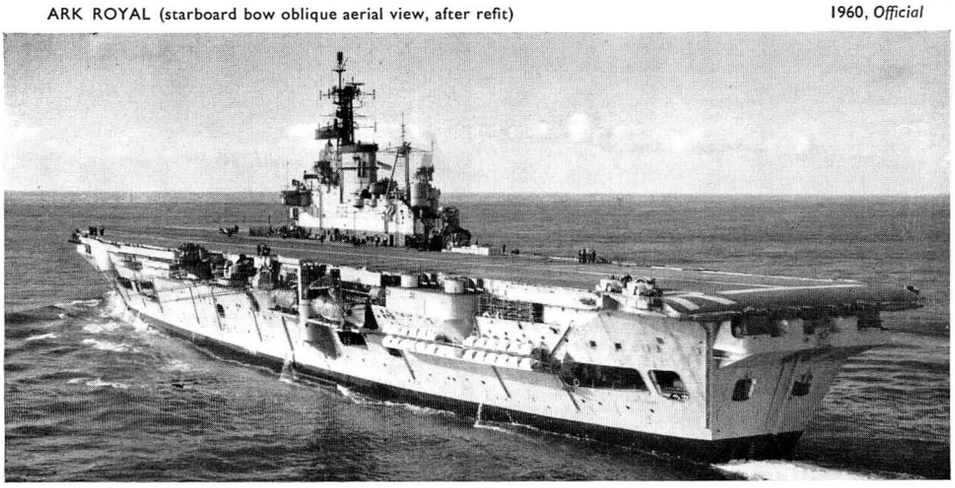
Starboard quarter view, port broadside view, and overhead plan view, all before conversion, and showing side lift, in the 1959-60 and earlier editions.

Notes to Drawing

Port elevation and plan. Redrawn in 1960. Scale: 128 feet=1 inch.



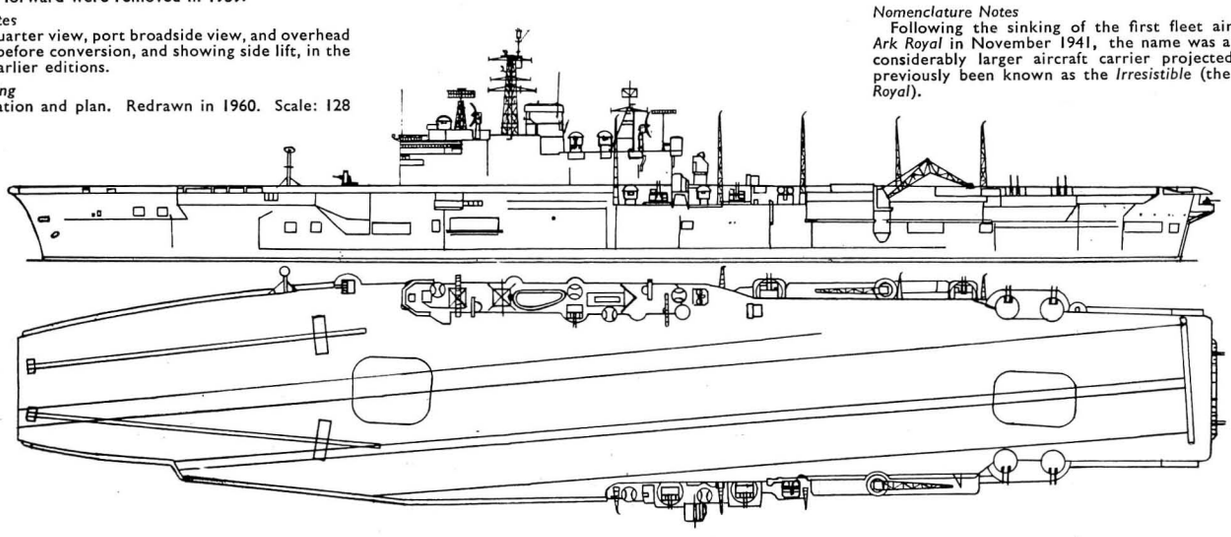
ARK ROYAL (starboard bow oblique aerial view, after refit) 1960, *Official*



ARK ROYAL (port quarter oblique aerial view, after refit) 1960, *Official*

Nomenclature Notes

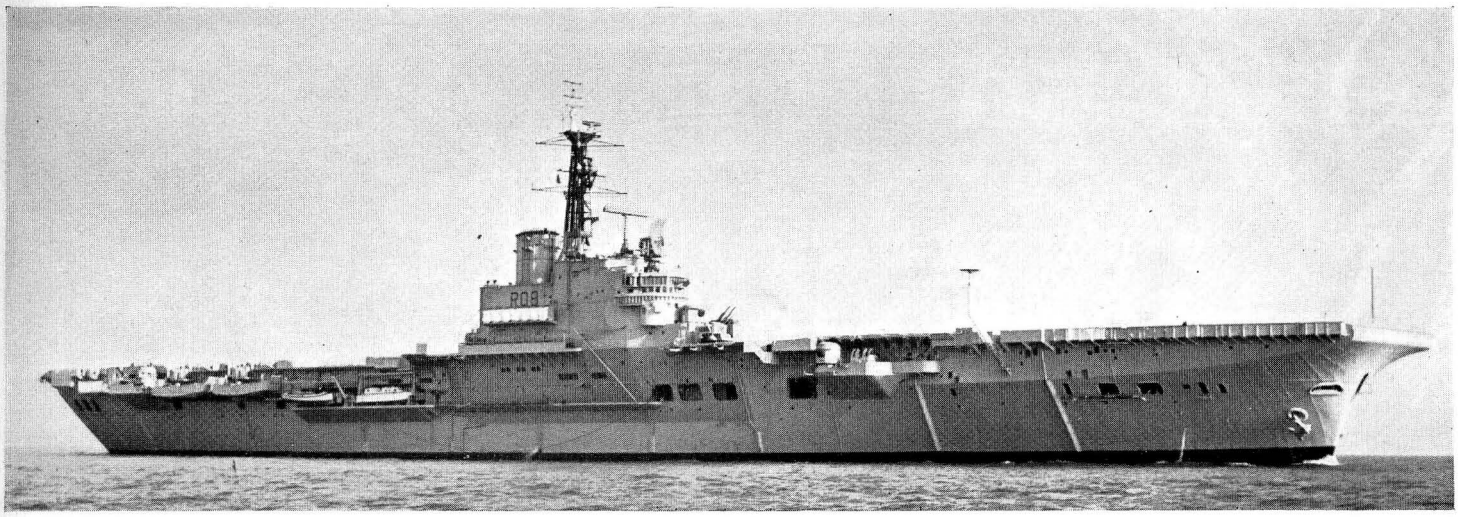
Following the sinking of the first fleet aircraft carrier *Ark Royal* in November 1941, the name was allocated to a considerably larger aircraft carrier projected which had previously been known as the *Irresistible* (the present *Ark Royal*).



Aircraft Carriers—*continued*



BULWARK (port broadside aerial view, after conversion) 1960, *Official*



BULWARK (starboard surface view, after conversion) 1960, *Wright & Logan*

Commando Carrier

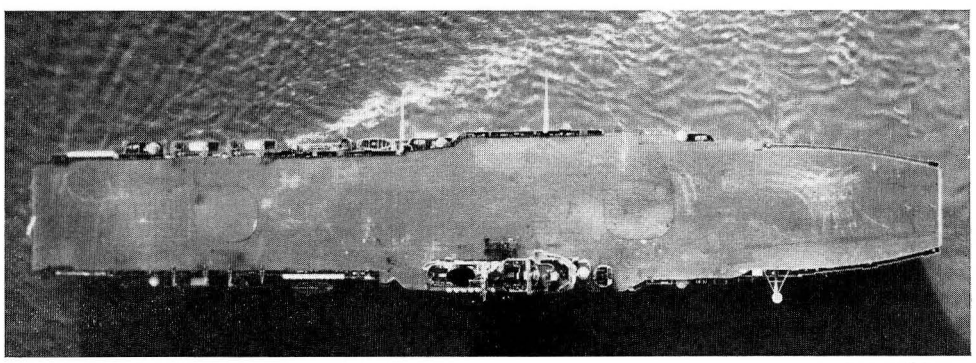
1 Modified "Centaur" Class

BULWARK

Recognition Deck Letter:	B
Pennant No.:	R 08
Builders and Engineers:	Harland & Wolff Ltd., Belfast
Laid down:	10 May 1945
Launched:	22 June 1948
Completed:	4 Nov. 1954
Displacement:	22,000 tons *standard*, 27,000 tons *full load*
Dimensions:	Length: 650 (*pp.*), 737¾ (*o.a.*) feet. Beam: 90 feet. Extreme breadth: 123 feet. Draught: 27 feet
Guns:	18—40 mm. AA. 1 6-barrelled, (5 twin, 2 single) 4—3 pdr. (saluting) See *Notes*
Aircraft:	16 helicopters
Landing Craft:	4 LCA
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 78,000=28 kts. (29·5 kts. on trials)
Boilers:	4 Admiralty 3-drum type
Complement:	1,037 (accommodation for 600 officers and men of Commando)

General Notes

Cost £10,386,000, excluding guns, aircraft and equipment. Originally the sister ship of the *Albion* and *Centaur*, see next page. Converted into a commando carrier in 1959. A full strength commando is available, which the carrier can quickly transport and land complete with equipment, wherever required. The commando carrier's helicopters are also able to disembark the commando's vehicles. She has on board sufficient stores and fuel to support the commando in active operations ashore, and can re-embark the unit speedily when required. She is the first ship of her kind to be commissioned in the Royal Navy. She not only reinforces the traditionally close association of the Corps of Royal Marines with the Navy, but gives these versatile troops greater mobility and usefulness, and enables them to be fully self-supporting. The commando carrier is fully convertible to the anti-submarine role. She is able, at short notice, and entirely within her own resources, to adapt her helicopters for anti-submarine work. The ship commissioned as a commando carrier on 19 Jan. 1960, and after trials and work-up at home and in the Mediterranean in the Spring she sailed for Singapore.



BULWARK (aerial plan view, after conversion) 1960, *Official*

Gunnery Notes

Eight 40 mm. AA. guns were removed during conversion to provide space for four assault landing craft carried at built-in gantries.

Conversion Notes

It is officially stated that basically the ship was not changed during her refit, although the fixed wing capability, the arrester wires and catapults were removed. Various alterations and modifications were made to render the ship suitable as an all-helicopter troop carrier with 16 Westland Whirlwind aircraft, which will be replaced at a later date by the Wessex, and four Landing Craft (Assault). The ship was fitted with the most extensive air conditioning system in the Royal Navy.

Engineering Notes

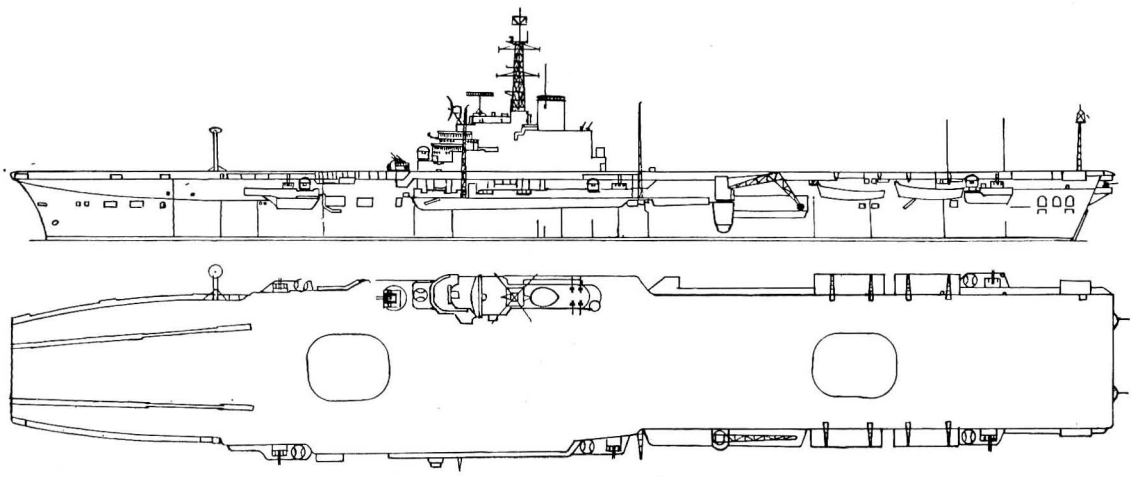
Three-bladed propeller replaced by four-bladed propeller.

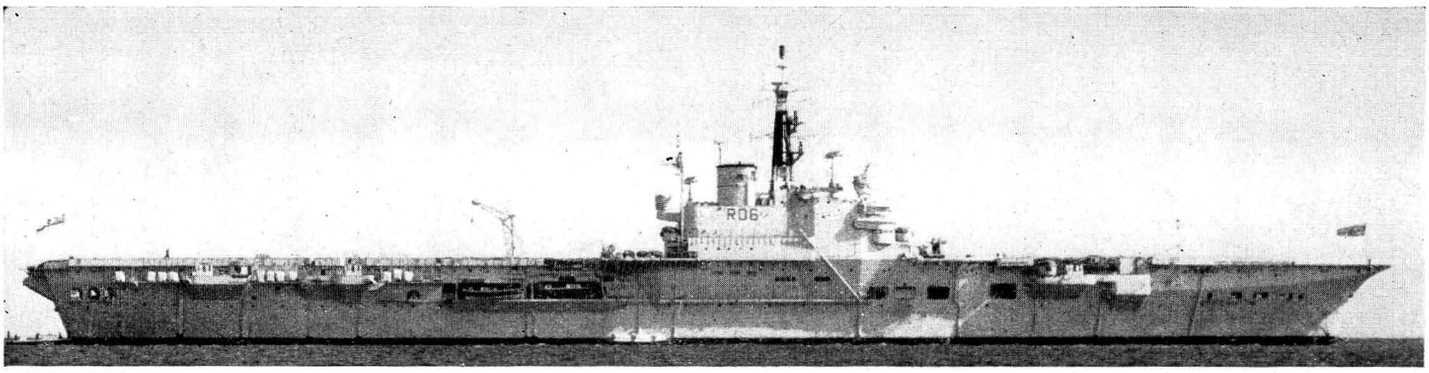
Photograph Notes

A port bow aerial view appears in the 1959-60 edition, a port broadside surface view in the 1958-59 and 1959-60 editions, and a starboard broadside view in the 1957-58 edition (all before conversion).

Notes to Drawing

Port elevation and plan. Drawn in 1960. Scale: 128 feet=1 inch.





CENTAUR (starboard broadside) after refit. Sep. 1958, *courtesy Godfrey H. Walker, Esq.*

2 " Centaur " Class

	ALBION	**CENTAUR**
Name:	*Albion*	*Centaur*
Recognition Deck Letter:	A	C
Pennant No.:	R 07	R 06
Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne	Harland & Wolff, Ltd., Belfast
Engineers:	Wallsend Slipway & Engineering Co. Ltd., Tyne	Harland & Wolff Ltd., Belfast
Laid down:	23 Mar. 1944	30 May 1944
Launched:	6 May 1947	22 Apr. 1947
Completed:	26 May 1954	1 Sep. 1953

Displacement:	22,000 tons *standard*, 27,000 tons *full load*
Dimensions:	Length: 650 (*pp.*), 737¾ (*o.a.*) feet. Beam: 90 feet. Extreme breadth: 123 feet. Draught: 27 feet
Guns:	20—40 mm. AA. 1 6-barrelled, 5 twin, 4 single) 4—3 pdr. (saluting)
Aircraft:	45 (including a squadron of helicopters in *Albion*)
Catapults:	2 hydraulic (*Albion*): 2 steam (*Centaur*)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 78,000=23 kts. (29·5 kts. on trials).
Boilers:	4 Admiralty 3-drum type
Complement:	*Centaur* 1,028, *Albion* 1,102 (ship's company, including ship's air complement), 1,330 to 1,390 (including attached air squadron personnel)

General Notes

Improvements incorporated during construction increased the originally designed displacement figure from 18,300 tons standard. These ships are enlarged versions of the " Majestic " class with propelling machinery of nearly twice the power to give an extra five knots speed, correcting the inherent faults of the original light carrier type and bringing them more into line with modern fleet aircraft requirements. *Centaur* cost £10,434,000, excluding guns, aircraft and equipment, and *Albion* cost £9,836,000. An " interim " (5½ degrees) or modified form of angled deck arrangement has been installed which necessitated the removal of three twin 40 mm. mounts and the extension of flight deck plating on port side amidships. There are five arrester wires spaced equally along the line of the angled deck. *Centaur* was equipped with steam catapults and new arrester gear in 1957.

Appearance Notes

The shape of the stern in these ships differs from that in earlier carriers.

Class Notes

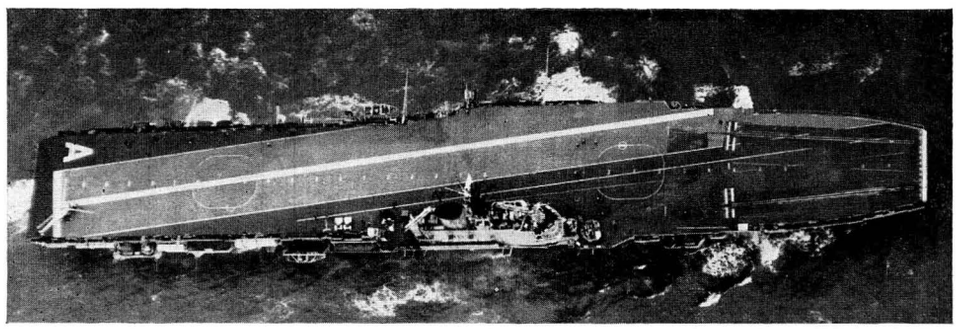
Of the eight ships of this class originally ordered, *Arrogant* original *Hermes*, *Monmouth* and *Polyphemus* were cancelled in 1945. *Hermes* (ex-*Elephant*) was completed to a modified design (see previous page).

Engineering Notes

Machinery by the Wallsend Slipway & Engineering Co. Ltd. in *Albion*, by builders in *Centaur*.

Photograph Notes

A port bow oblique aerial view of *Albion* and a starboard quarter oblique aerial view of *Centaur* appear in the 1957-58, 1958-59 and 1959-60 editions.



ALBION (aerial plan view, showing angled deck 1960, *Official*



CENTAUR (port bow oblique aerial view—helicopter landing on deck) 1960, *Official*

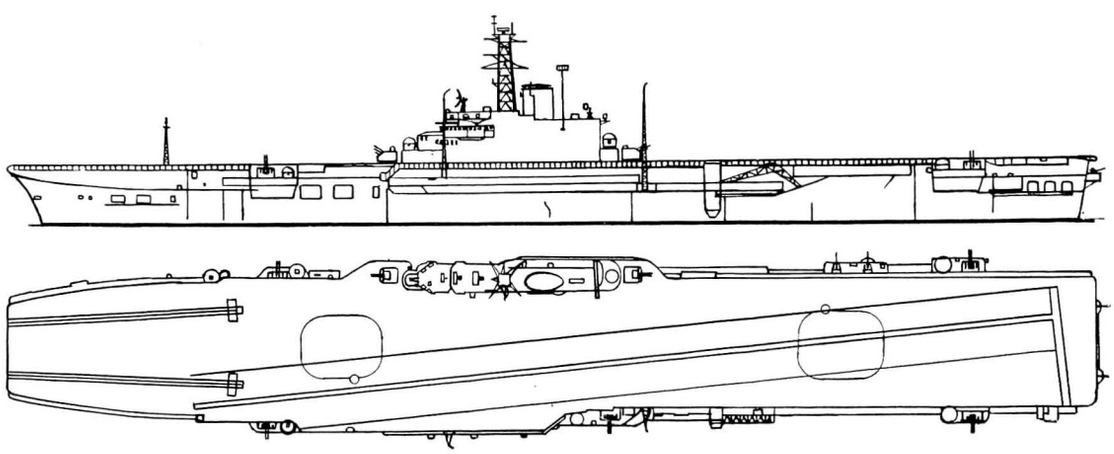
Conversion Notes

Albion is to be converted into a Commando Carrier.

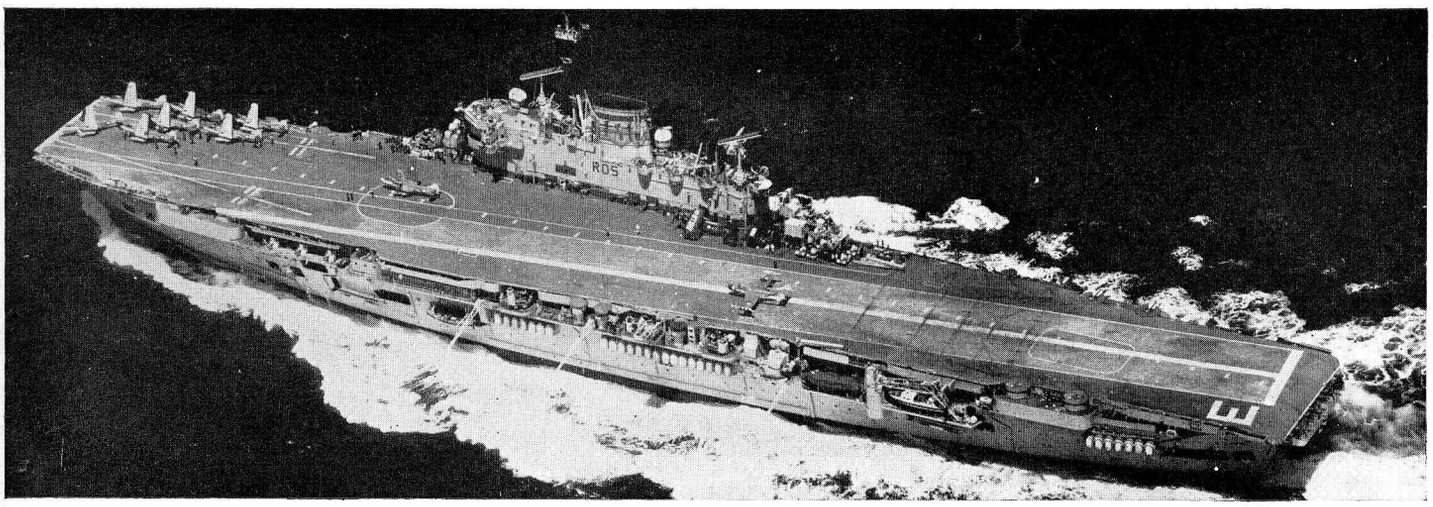
Sister ship *Bulwark* was converted into a commando carrier in 1959, see previous page.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch. The 6-barrelled 40 mm. AA. gun abaft the island has been removed.



Aircraft Carriers—*continued*



EAGLE (port quarter aerial view) *Added* 1960, *Official*

EAGLE (ex-*Audacious*)

Recognition	
Deck Letter:	E
Pennant No.:	R 05
Builders and	Harland & Wolff Ltd.,
Engineers:	Belfast
Laid down:	24 Oct. 1942
Launched:	19 Mar. 1946
Completed:	1 Oct. 1951
Displacement:	43,060 tons *standard* (53,000 tons *full load*). Officially revised figures.
Dimensions:	Length: 720 (*pp.*), 803¾ (*o.a.*) feet. Beam: 112¾ feet. Draught: 33½ (36 *max.*) feet
Guns:	16—4·5 inch d.p., 58—40 mm. AA. (8—6-barrelled, 2 twins in stern sponson, 6 single) 4—3 pdr.
Aircraft:	50 in peacetime
Catapults:	2 hydraulic (see *Modernisation Notes*)
Machinery:	Parsons single reduction geared turbines, 4 shafts. S.H.P.: 152,000= 31·5 kts. *deep load*
Boilers:	8 Admiralty 3-drum type
Complement:	1,425 (including ship's air comple. ment, but excluding the comple- ments of embarked air squadrons); (2,750 war) *max.* accommodation

General Notes

Ordered on 19 May 1942 and finally accepted into the Royal Navy on 1 Mar. 1952. Of 90 per cent welded construction. Damage control arrangements are exceptionally complete. Cost £15,795,000.

Modernisation Notes

The ship is being extensively refitted and completely modernised. She is being provided with a fully angled flight deck at 8½ degrees, and comprehensive structural alterations are being made to equip her with two steam catapults for launching the latest naval aircraft. The most up-to-date living accommodation for the ship's complement is also being incorporated. Her reconstruction commenced at the end of 1959, and is scheduled to take three or four years.

Appearance Notes

The shape of the stern differs from that in earlier aircraft carriers. *Eagle* differs from *Ark Royal*.

Class Notes

Sister ship of *Ark Royal*, see previous page. Two more large fleet aircraft carriers of this type, *Africa* and original *Eagle*, were cancelled at the end of the Second World War. Three much larger fleet aircraft carriers, to have been named *Gibraltar*, *Malta* and *New Zealand*, were also cancelled.

Nomenclature Notes

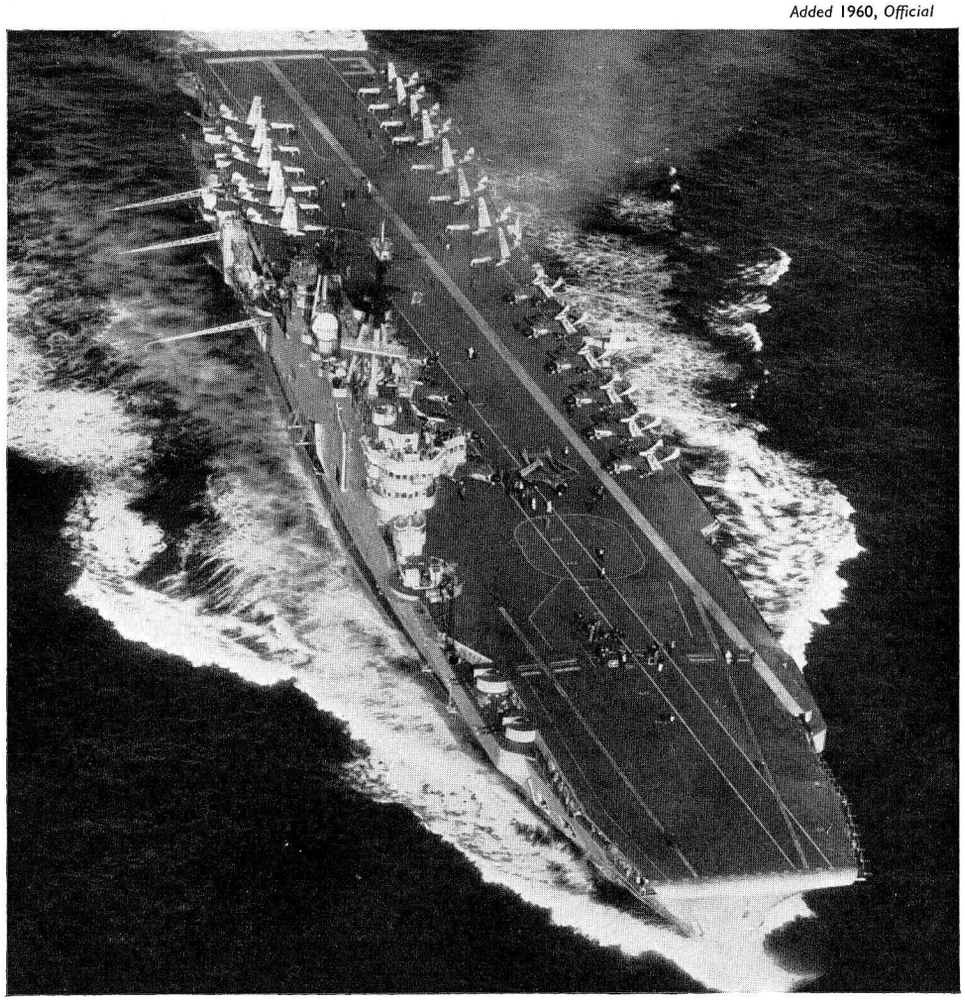
After the first aircraft carrier *Eagle* was lost in August 1942 the name was given to an aircraft carrier of the above class ordered from Vickers-Armstrongs, Ltd., Tyne, but this vessel was cancelled at the end of the war, and the sister ship which had been begun as the *Audacious* was renamed *Eagle* on 21 Jan. 1946.

Photograph Notes

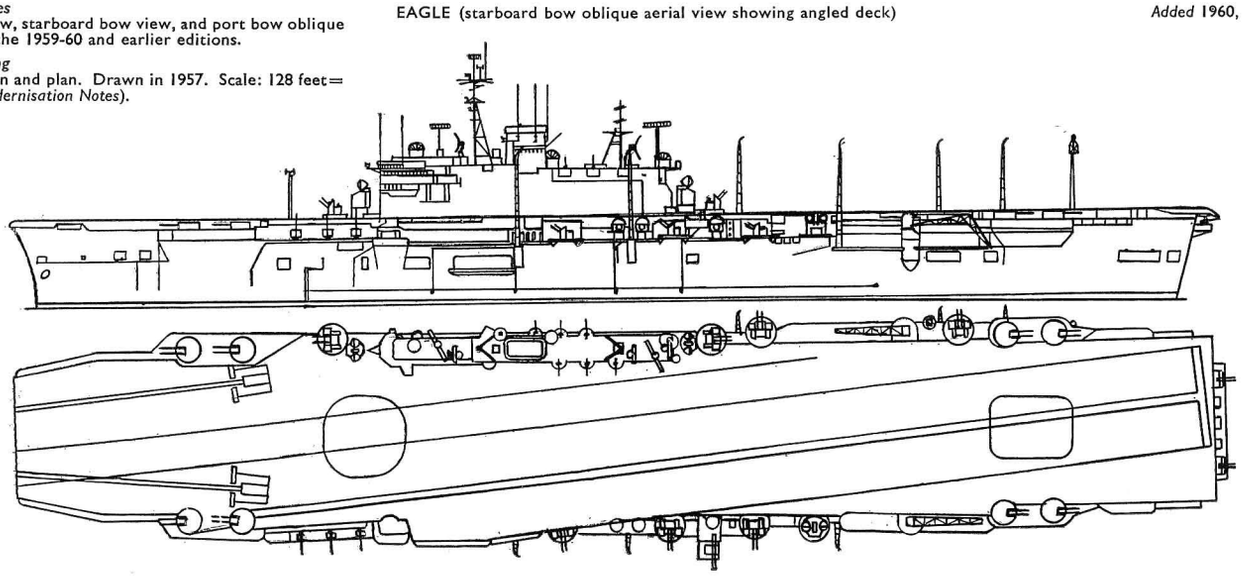
Port bow view, starboard bow view, and port bow oblique aerial view in the 1959-60 and earlier editions.

Notes to Drawing

Port elevation and plan. Drawn in 1957. Scale: 128 feet= 1 inch (see *Modernisation Notes*).



EAGLE (starboard bow oblique aerial view showing angled deck) *Added* 1960, *Official*



Aircraft Carriers—*continued*



MAGNIFICENT

1957, *Royal Canadian Navy, Official*

2 " Majestic " Class

MAGNIFICENT

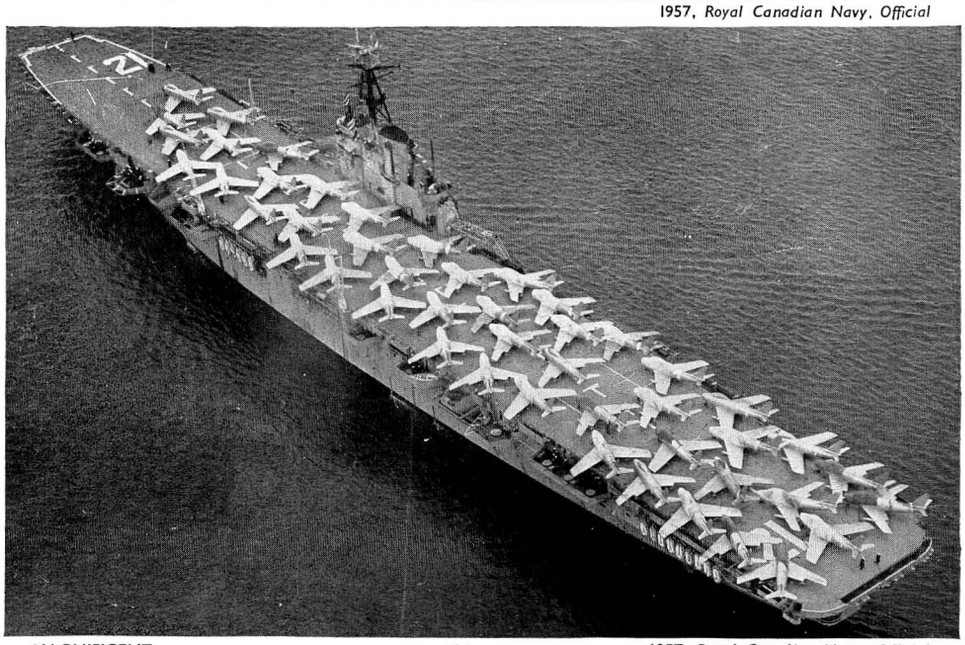
Recognition Deck Letter:	G
Builders:	Harland & Wolff Ltd., Belfast
Laid down:	29 July 1943
Launched:	16 Nov. 1944
Completed:	21 May 1948
Displacement:	15,700 tons *standard* (19,550 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 698 (*o.a.*) feet. Beam: 80 feet. Width: 112½ feet. Draught: 25 feet Width of flight deck at island: 75 feet; of flight deck: 80 feet; with island: 91 feet; with gun sponsons removed for passage through Panama Canal: 106 feet; overall, including safety nets and gun sponsons: 112½ feet
Guns:	30—40 mm. AA. Bofors, (8 twin)
Aircraft:	34 (capacity)
Catapults:	1 hydraulic
Machinery:	Parsons single-reduction geared turbines. 2 shafts. S.H.P.: 42,000= 24·5 kts. (designed)
Boilers:	4 Admiralty 3-drum type. Steam pressure at engines: 350 lb./sq. in.
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.
Complement:	1,350 (war)

General Notes

Magnificent was on loan to the Royal Canadian Navy from before completion (transferred 1946) to 1957 (returned to Royal Navy at Devonport 14 June). While in the Royal Canadian Navy the air recognition number 21 was painted on the flight deck.

Engineering Notes

Engines and boilers are arranged *en echelon*, one set of turbines and two boilers being installed side by side in each of the two main propelling machinery spaces, on the unit system.



MAGNIFICENT

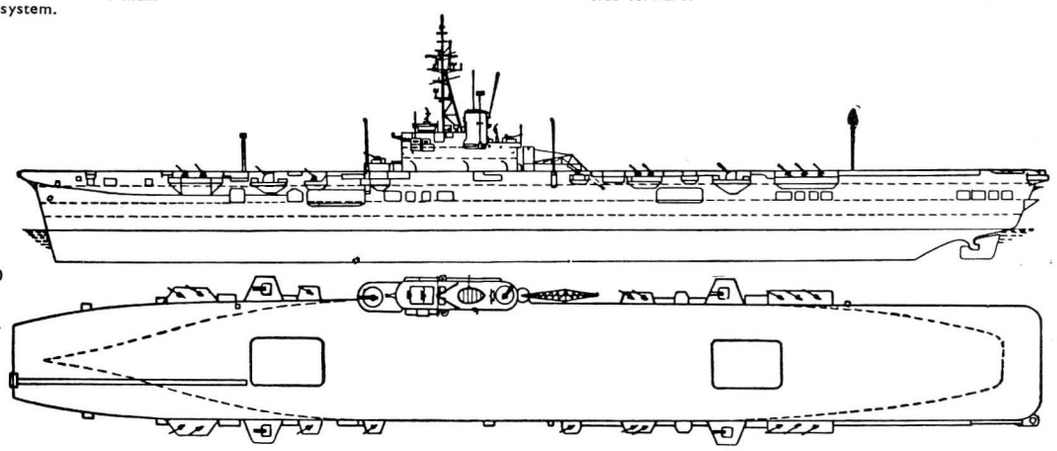
1957, *Royal Canadian Navy, Official*

Notes to Drawing

Port elevantion and plan of *Magnificent*. Scale: 128 feet= 1 inch.

Appearance Notes

Distinguished from larger carriers by generally lighter appearance and thin funnel and distinctive shape of ship's side forward.



LEVIATHAN

Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne
Engineers:	The Wallsend Slipway & Engineering Co. Ltd., Wallsend-on-Tyne
Laid down:	18 Oct. 1942
Launched:	7 June 1945
Suspended:	May 1946
Displacement:	15,700 tons *standard* (19,550 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 694 (*o.a.*) feet. Beam: 80 feet. Draught: 24 feet
Machinery:	Parsons single-reduction geared turbines. 2 shafts. S.H.P.: 42,000=24·5 kts designed
Boilers:	4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)

General Notes

Laid up in H.M. Dockyard, Portsmouth. Air-conditioned and insulated for tropical service, ship's sides being sprayed with asbestos cement instead of being lagged. Separate messes and dining halls. Pressed water-tight doors of smaller pattern. Steam heating round weather water-tight doors to prevent clips seizing up in Arctic.

Constructional Notes

Construction stopped in May 1946, when structurally almost complete and 80 per cent fitted out. Towed to Portsmouth Dockyard in July 1946. No work done on her since. Officially stated ship is being retained, but no date is given for resumption.

Engineering Notes

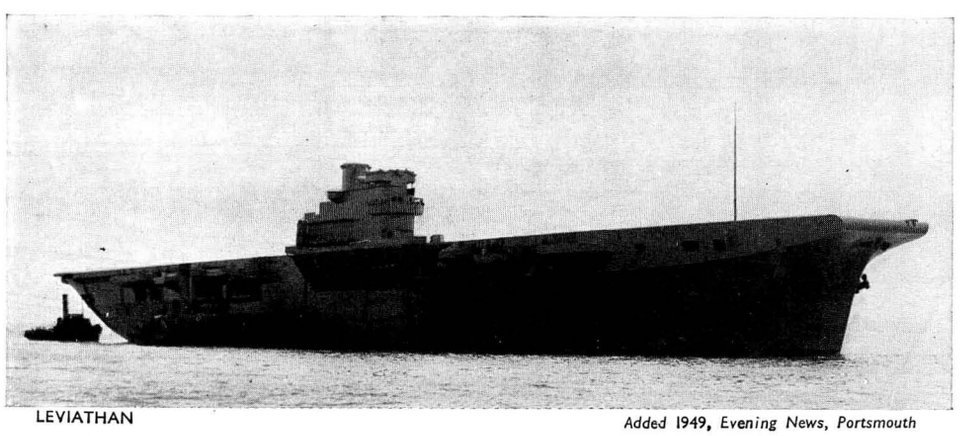
Turbines arranged *en echelon* so that starboard propeller shaft is longer than the port. Maximum speed: 25 knots.

Flight Deck Notes

Catapult: single track, 20,000 lb. at 60 kts. Catapult accelerator gear port side forward.

Class Notes

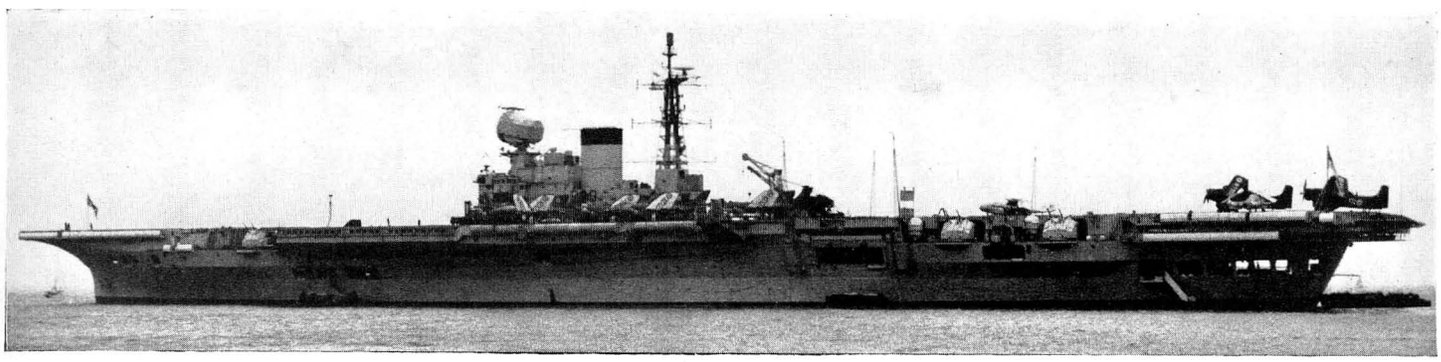
Of other ships of this class *Magnificent* was lent to the Royal Canadian Navy from 1946 to 1957; *Powerful* (renamed *Bonaventure*) was completed for the R.C.N.; *Majestic* (renamed *Melbourne*) was completed for the Royal Australian Navy; and *Terrible* (renamed *Sydney*) was sold to R.A.N. *Hercules* was sold to the Indian Navy in 1957 for completion and modernisation, and renamed *Vikrant*.



LEVIATHAN

Added 1949, *Evening News, Portsmouth*

Aircraft Carriers—*continued*



VICTORIOUS (port surface view) 1960, *courtesy Godfrey H. Walker, Esq.*

VICTORIOUS

Recognition	
Deck Letter:	V
Pennant No.:	R 38
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Newcastle-on-Tyne
Engineers:	The Wallsend Slipway Engineering Co. Ltd., Wallsend-on-Tyne
Ordered:	13 Jan. 1937
Laid down:	4 May 1937
Launched:	14 Sep. 1939
Completed:	15 May 1941
Rebuilt:	H.M. Dockyard, Portsmouth, 1950-58
Displacement:	30,530 tons *standard* (35,500 tons *full load*) revised figures
Dimensions:	Length: 740 (*pp.*), 781 (*o.a.*) feet. Beam (*hull*): 103⅓ feet. Width (*overall*): 146¾ feet. Draught: 31 feet
Guns:	12—3 inch, 50 cal.; 6—40 mm. AA. Bofors (1—6-barrelled); 4—3 pdr.
Aircraft:	54 in peacetime
Catapults:	2 steam
Armour:	4½″ belt, 4½″ hangar side, 3½″ flight deck, 2½″ hangar deck
Machinery:	3 sets Parsons geared turbines. 3 shafts. S.H.P.: 110,000=31 kts.
Boilers:	6 Foster Wheeler
Complement:	2,200

General Notes

This ship originally had a displacement of 22,600 tons *standard* (29,100 tons *full load*), dimensions 751 × 95¾ × 29¼ feet, and a main armament of 16—4·5 inch guns.

Reconstruction Notes

Virtually rebuilt in H.M. Dockyard, Portsmouth, 1950 to 1958. Re-launched (floated out of dry dock) on 19 May 1955. One of the best equipped aircraft carriers in the world. She has a fully angled flight deck, steam catapults and the most modern landing control system. Her electronic equipment is of the most advanced design. It includes a high powered radar set which can detect aircraft targets at considerable range and show their position simultaneously in range, bearing and height. With this radar set goes a new display system which makes it possible to clarify the airborne target situation quickly and easily. This will enable her to exploit to the full the capabilities of the latest and next generations of naval aircraft. Two mirror sight deck landing aids and new high speed lifts have been fitted. Reconstruction involved increase in length by 30 feet, hull beam by 7⅜ feet, draught by 1¾ feet. Her 3 inch guns are in twin mounts of new pattern. She was the first aircraft carrier in the Royal Navy with a fully angled deck. She has the latest arrester gear. Her modernisation included re-boilering, the installation of new armament and improved accommodation.

Flight Deck Notes

An angle of 8¾ degrees has been achieved by extending the flight deck outwards for 41 feet on the port side for a length of 120 feet. It overhangs the ship's side by 35½ feet, the extension being supported by a very large sponson bracketed into the ship's structure, and counter-balanced by the weight of the island superstructure opposite on the starboard side.

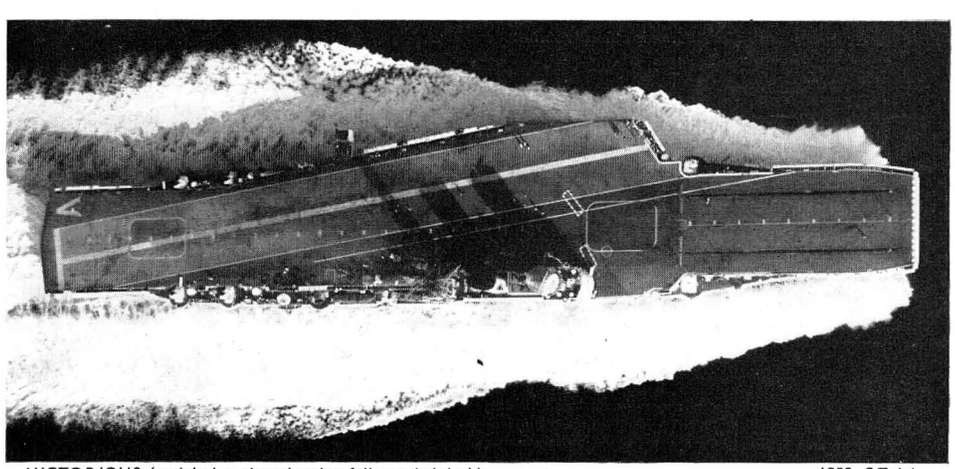
The flight deck, over 775 feet long, is strong enough to take the heaviest Fleet Air Arm machines, including the Blackburn N.A.39. Two parallel track 145 feet catapults are fitted forward with aircraft positioners and jet blast deflectors. The arrester gear comprises four wires with an average span of 80 feet.

Engineering Notes

The ship can be steamed from the machinery control room by hydraulic remote controls. Steam conditions: 440 lb. per sq.inch. pressure ; 750 deg. Fah. superheat.



VICTORIOUS (port bow oblique aerial view) 1960, *Official*



VICTORIOUS (aerial plan view showing fully angled deck) 1959, *Official*

Electrical Notes

The main generating capacity of the ship has been increased from 2,400 kW to 4,200 kW

Appearance Notes

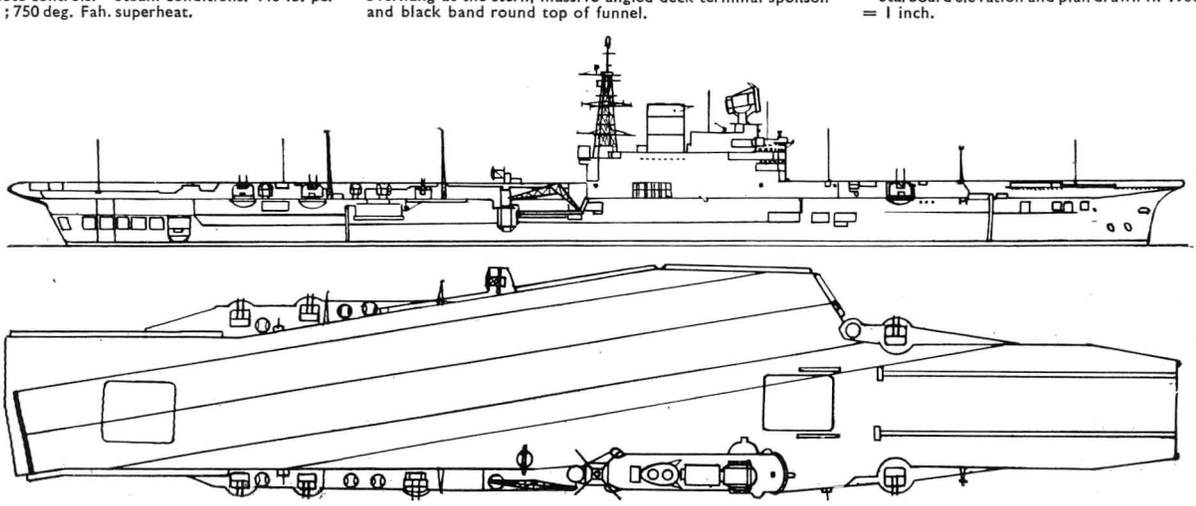
Easily distinguished from other carriers by rather smaller island, very large radar aerial surmounting the bridge, long overhang at the stern, massive angled deck terminal sponson and black band round top of funnel.

Photograph Notes

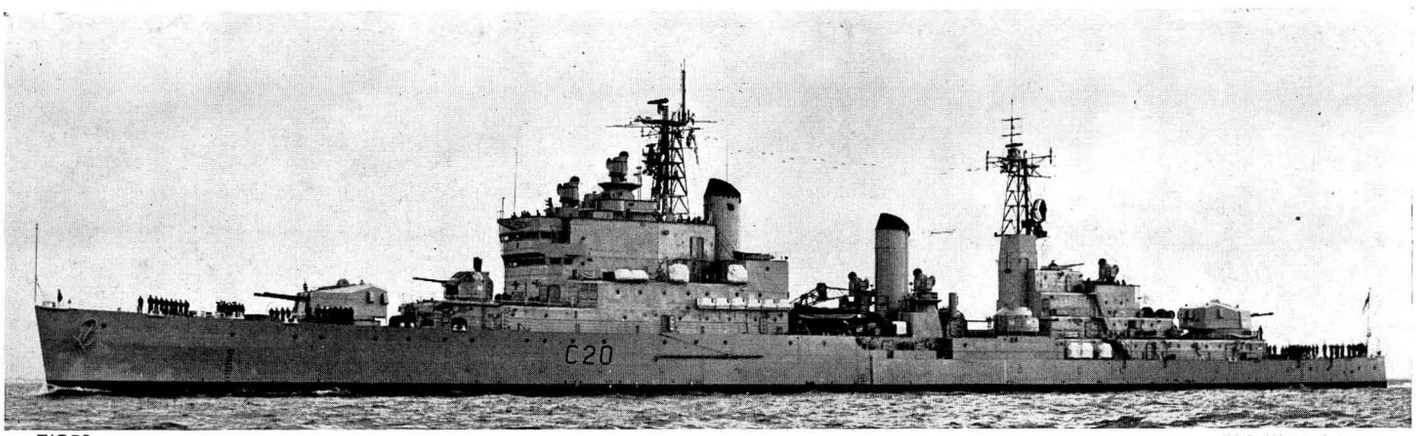
A port bow surface view and a starboard bow oblique aerial view appear in the 1959-60 edition, and a starboard quarter broadside view showing counter overhang, a port quarter aerial view, and a starboard bow view appear in the 1958-59 edition.

Note to Drawing

Starboard elevation and plan drawn in 1958. Scale 128 feet = 1 inch.



CRUISERS



TIGER — 1959, *Wright & Logan*

3 " Tiger " Class

BLAKE (ex-*Tiger*, ex-*Blake*) **TIGER** (ex-*Bellerophon*)
LION (ex-*Defence*)

Displacement:	9,550 tons *standard* (11,700 tons *full load*)
Dimensions:	Length: 538 (*pp.*) 555½ (*o.a.*) feet. Beam: 64 feet. Draught: 21 feet
Guns:	4—6 inch (twin), 6—3 inch (twin new pattern)
Armour:	See notes
Machinery:	4 Parsons geared turbines. 4 shafts. S.H.P.: 75,500=31·5 kts. (*max.*)
Boilers:	4 Admiralty 3-drum type.
Complement:	*Tiger* 698 (53 officers, 645 ratings), 900 (war)

General Notes
As completed these ships exceed their originally designed displacement of 8,000 tons. Work on them was stopped in July 1946, but while construction on all three was suspended, work in relation to the preparation of equipment was progressed. Decision to proceed with the completion of these three cruisers was officially announced on 15 Oct. 1954, and they were actually dismantled ready for resumption of construction to a new design in 1955. It is officially estimated that *Tiger cost* £13,113,000.

Gunnery Notes
As originally designed the ordnance included nine 6 inch, ten 4 inch and 16 smaller guns, but the ships now carry new fully automatic guns of very advanced design. The main armament now consists of four 6 inch guns, mounted in two twin turrets, which are equally effective in the surface and anti-aircraft roles. The rate of fire of these guns is more than twice that of any previous cruisers. The secondary armament consists of six 3 inch guns mounted in three twin turrets. These guns are capable of a rate of fire comparable with the light anti-aircraft guns of the Second World War.
The ships are fitted with a comprehensive gun direction system which enables all the turrets to be controlled by radar.
Six inch turret weighs 163 tons, 3 inch turret weighs 38½ tons.

Operational Notes
The ships are controlled from a totally enclosed bridge, the first ever fitted in British cruisers. A 200-line automatic telephone exchange facilitates internal communications.

Engineering Notes
The main machinery is largely automatic and can be remotely controlled.

Electrical Notes
Four turbo-generators provide over 4,000 kilowatts of alternating current, the first time this type of power has been used in British cruisers.

Torpedo Notes
Were originally designed to have eight 21-inch torpedo tubes in two quadruple mountings.

Habitability Notes
Complete air-conditioning is installed to ensure a comfortable atmosphere in any climate. A large amount of electrical equipment is provided for cooking, deck-cleaning, paint-scaling and television, cinema and radio rediffusion installations. Accommodation is of a very much higher standard than in any previous cruisers. Each man has a bunk. Fluorescent lighting is installed. Separate dining halls.

Photograph Notes
A large broadside view of *Tiger*, showing midship details, appears in the 1959-60 edition.

Name	*Laid down*	*Launched*	*Completed*
Blake	17 Aug. 1942	20 Dec. 1945	31 Jan. 1961
Lion	24 June 1942	2 Sep. 1944	12 July 1960
Tiger	1 Oct. 1941	25 Oct. 1945	18 Mar. 1959

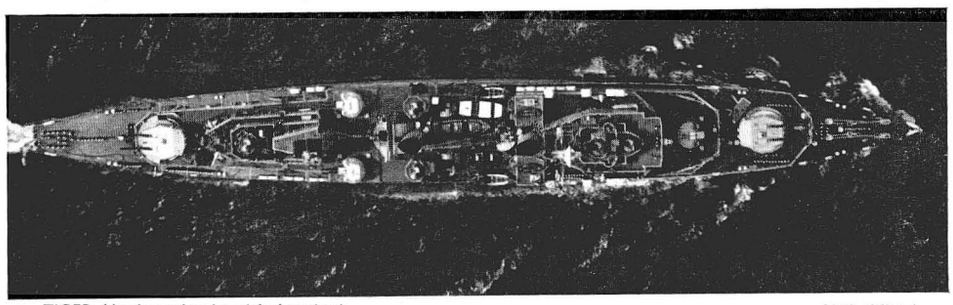
Pennant No. | *Name* | *Builders and Engineers*

C 99	*Blake*	Fairfield S.B. & Eng. Co. Ltd., Govan
C 34	*Lion*	Scotts S.B. & Eng. Co. Ltd., Greenock*
C 20	*Tiger*	John Brown & Co. Ltd., Clydebank

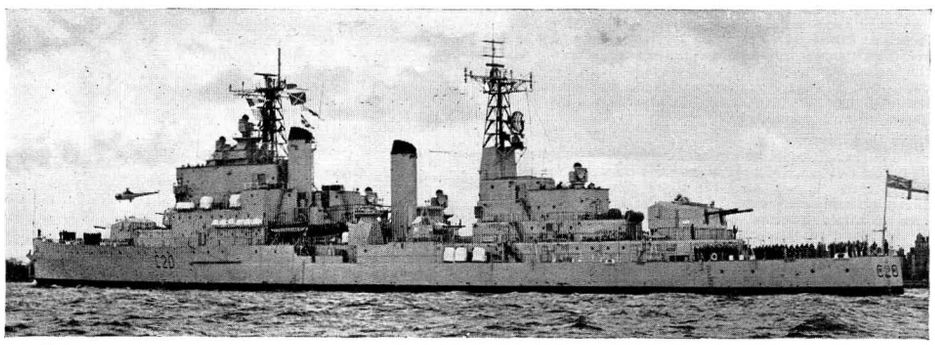
* To launching stage. Completed by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne. Main machinery completed by the Wallsend Slipway & Engineering Co. Ltd., Wallsend-on-Tyne.
(Officially stated in 1960-61 Navy Estimates.)



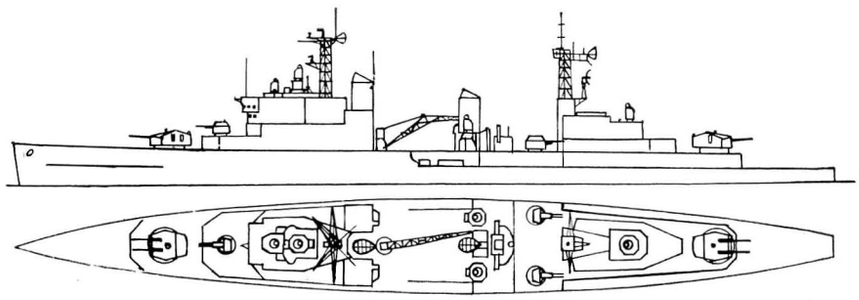
TIGER (starboard bow aerial view) — 1960, *Official*



TIGER (dead overhead aerial plan view) — 1960, *Official*



TIGER (port quarter view) — 1959, *Wright & Logan*



Armour Notes
Protection is similar to *Superb* as originally designed.

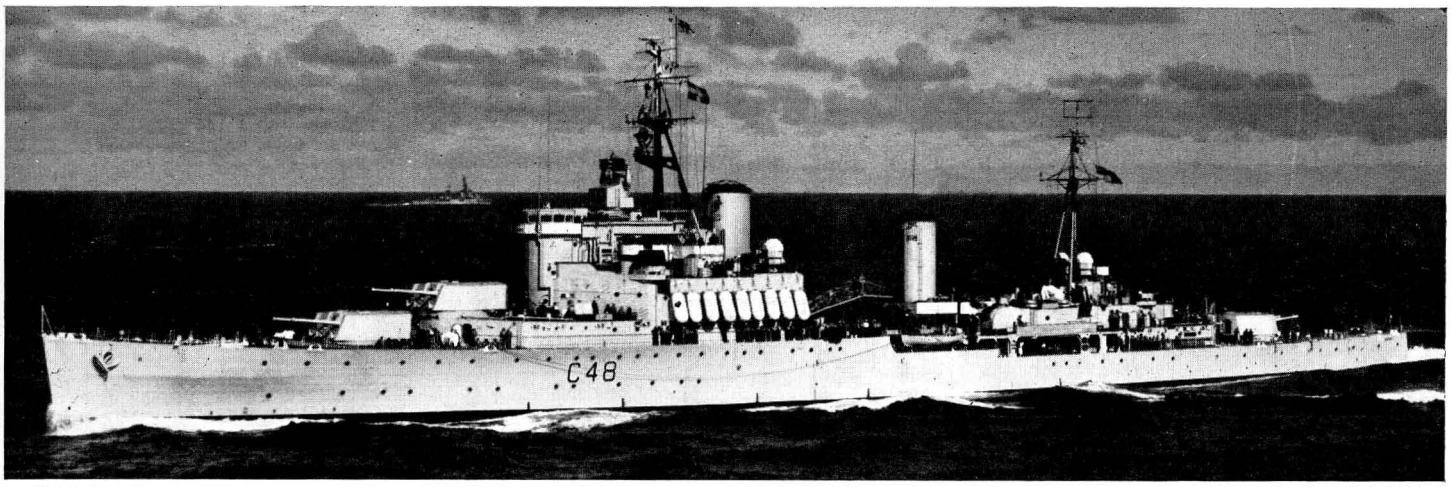
Class Notes
Hawke, of this class, laid down at H.M. Dockyard, Portsmouth in Aug. 1944, was cancelled in 1946, as was *Bellerophon* (ex-*Tiger*) a cruiser of enlarged design, ordered from Vickers-Armstrongs.

Nomenclature Notes
The name of *Defence* was changed to *Lion* in 1957 (announced by Admiralty 8 Oct.)

Notes to Drawing
Port elevation and plan. Redrawn in 1960. Scale: 128 feet=1 inch.

Recent Disposals of Battleships
The four battleships of the " King George V." class, *Anson*, *Duke of York*, *Howe* and *King George V*, were broken up in 1958.
The sole surviving battleship, *Vanguard*, is being scrapped.
See full particulars, photographs and plan, elevation and silhouette drawings in the 1959-60 and earlier editions.

Cruisers—*continued*



GAMBIA — *March, 1959, Official*

SWIFTSURE

Pennant No.:	C 08
Builders:	Vickers-Armstrongs, Ltd., Tyne
Engineers:	Vickers-Armstrongs, Ltd., Barrow
Laid down:	22 Sep. 1941
Launched:	4 Feb. 1943
Completed:	22 June 1944

Displacement:	8,800 tons *standard* (11,240 tons *full load*)
Dimensions:	Length: 555½ feet (*o.a.*). Beam: 63 feet. Draught: 16½ (*mean*), 21¼ (*max.*) feet
Guns:	9—6 inch, 8—4 inch AA., 4—40 mm. Bofors AA.
Tubes:	Removed
Armour:	4″ side, 4″ C.T., 2″ turrets, 4″ deck
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 72,500=31.5 kts.
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,850 tons
Radius:	6,500 miles at 13 kts.
Complement:	855 (peace), 960 (war)

General Notes
Designed displacement was 8,000 tons. Refitted and modernised in 1956-60. *Ontario*, of the same type, was given to the Royal Canadian Navy.

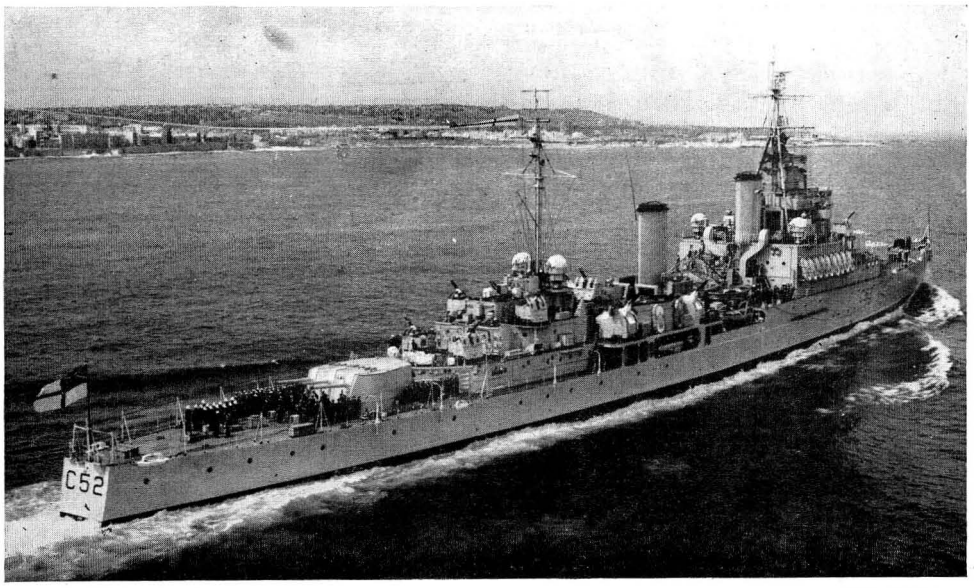
Torpedo Notes
The ship originally mounted 6—21 inch torpedo tubes.

Reconstruction Notes
Now has lattice masts and modified bridge, but her reconstruction was suspended in 1960.

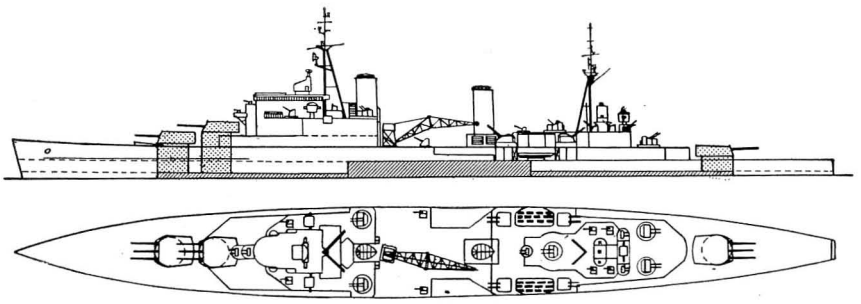
Appearance Notes
No provision was ever made for aircraft, the absence of the hangar structure abreast the forefunnel and the additional pair of 4 inch AA. in "X" position distinguishing her from the "Colony" class.

Photograph Notes
A starboard bow view of *Swiftsure* appears in the 1957-58 edition, and a larger port quarter view appears in the 1958-59 and 1959-60 editions.

Drawing Notes
A port elevation and plan of *Swiftsure* before reconstruction, Scale: 128 feet=1 inch, appears in the 1959-60 edition.



BERMUDA (starboard quarter oblique view) — 1960, *Official*



2 "Colony" Class

BERMUDA — GAMBIA

Displacement:	8,000 tons *standard* (11,000 to 11,270 tons *full load*)
Dimensions:	Length: 549 (*w.l.*), 555½ (*o.a.*) feet. Beam: 62 feet. Draught: 16½ (*mean*), 21 (*max.*) feet
Guns:	*Bermuda*: 9—6 inch, 8—4 inch AA., 14—40 mm. AA. *Gambia*: 9—6 inch, 8—4 inch AA., 14—40 mm. AA. (5 twin, 4 single)
Tubes:	6—21 inch (see *Torpedo Notes*)
Armour:	4½″-3″ side, 4″ C.T., 2″ turrets, 2″ deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 72,500=31·5 kts. (sea speed 29·75 kts.)
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,620 tons
Radius:	6,000 miles at 13 kts.
Complement:	750 (peace); 980 (war)

General Notes
Gambia was built under the 1938 Estimates and *Bermuda* under the 1939 Estimates. These ships were a logical development of the "Southampton" and improved "Southampton" designs, and have proved highly successful in service. A fourth triple 6-inch turret in "X" position was removed.

Gunnery Notes
Different type of light anti-aircraft guns in *Gambia*. In all ships light AA. armament differed in number, type and disposition (see data above and photos). The 4 inch guns are radar controlled.

Torpedo Notes
Gambia had her 6—21 inch torpedo tubes removed in 1958.

Appearance Notes
Gambia and *Bermuda* have totally different bridges. *Bermuda* was refitted in 1960.

Class Notes
Of this class, *Nigeria* was sold to the Indian Navy in 1954. Two others, *Fiji* and *Trinidad*, were lost in action during the Second World War.

Photograph Notes
Aerial broadside and port bow views of *Kenya*, and starboard bow view of *Jamaica* in the 1957-58 (Diamond Jubilee) edition. Starboard bow view of *Kenya* in the 1958-59 edition. Port bow surface view of *Bermuda* and port bow aerial view of *Mauritius* in the 1959-60 edition.
(Photographs of *Swiftsure* and *Superb* appear in the 1958-59 and 1959-60 editions.)

Note to Drawing
Port elevation and plan of "Colony" Class. Scale: 128 feet=1 inch

Recent Disposals
Of the "Colony" class, the *Jamaica* was scrapped in 1960, the *Kenya* is on the sales list, and the *Mauritius* is surplus to naval requirements and is to be disposed of in the near future.

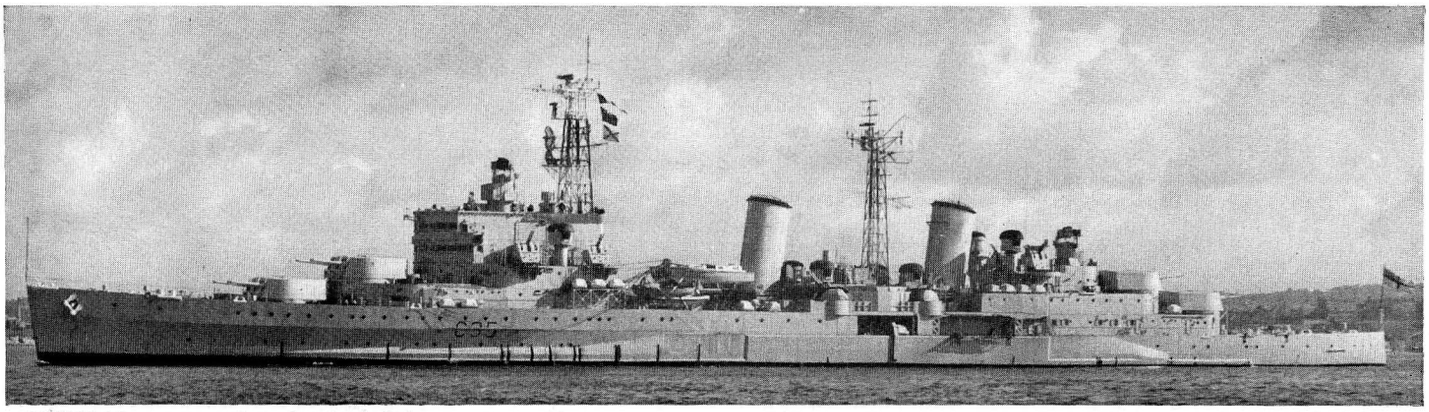
Of the "Ceylon" class, the *Newfoundland* was transferred to the Peruvian Navy at Portsmouth on 30 Dec. 1959 and renamed *Almirante Grau*, and the *Ceylon* was transferred to the Peruvian Navy at Portsmouth on 9 Feb. 1960 and renamed *Coronel Bolognesi*.

Of later cruisers, the *Superb* is surplus to naval requirements and is to be scrapped in the near future, and the *Swiftsure*, which was to have been reconstructed, but on which work has been suspended, is also expected to be sold or otherwise disposed of.

(See full particulars, notes, photographs, plan and elevation drawings, and silhouettes in the 1959-60 and earlier editions.)

Pennant No.	*Name*	*Builders*	*Engineers*	*Ordered*	*Laid down*	*Launched*	*Completed*
C 48	*Gambia*	Swan Hunter	Wallsend Slipway	1939	24 July 1939	30 Nov. 1940	21 Feb. 1942
C 52	*Bermuda*	Clydebank	Clydebank	1939	30 Nov. 1939	11 Sep. 1941	5 Aug. 1942

Cruisers—*continued*



BELFAST (after reconstruction and modernisation) 1959, *Official*

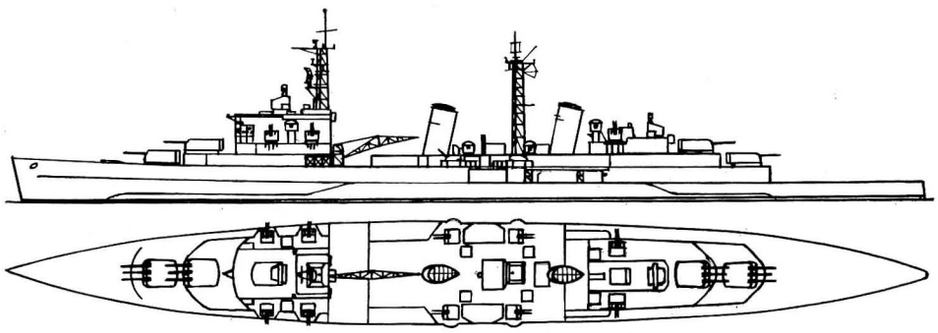
1 Improved " Southampton " Class

BELFAST

Pennant No.:	C 35
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	10 Dec. 1936
Launched:	17 Mar. 1938
Completed:	3 Aug. 1939
Displacement:	11,550 tons *standard* (14,930 tons *full load*)
Dimensions:	Length: 579 (*pp.*), 613½ (*o.a.*) feet. Beam: 66⅓ feet. Draught: 17 feet (23 feet *max.*)
Guns:	12—6 inch, 8—4 inch AA., 12—40 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	5"—3" side, 4" C.T., 2½" turrets
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 80,000=32·5 kts. designed
Boilers:	4 Admiralty 3-drum type
Oil fuel:	2,260 tons
Radius:	8,000 miles at 14 kts.
Complement:	710 (52 officers, 658 men) in peacetime

General Notes
Improved " Southampton " type. The largest cruiser in the Royal Navy. Designed displacement was 10,000 tons with beam of 63½ feet, since increased. Built under 1936 Estimates. Internal subdivision is exceptionally complete. Was practically rebuilt after being heavily damaged by a mine in the early months of the Second World War, beam being increased and other alterations made.

Gunnery Notes
Until her 1955-59 reconstruction the light anti-aircraft armament comprised two 8-barrelled 2 pdr. four 4-barrelled 2 pdr. and nine single 40 mm.



Torpedo Notes
The 6—21 inch torpedo tubes originally mounted in triple banks were removed during the 1956-59 refit.

First Reconstruction Notes
When she was mined her back was broken, and in the course of repairs, to strengthen her, she was fitted with an external bulge adding approximately 2½ feet to her beam. This bulge roughly covered the same areas as the armour belt above the water line. Besides providing additional under-water protection, it improved the ship's stability, thereby enabling her to retain her entire 6-inch armament despite extra top weight having been added.

Second Reconstruction Notes
It was officially announced in 1955 that the *Belfast* was to undergo reconstruction and modernisation. This was completed on 12 May 1959. Extensive modifications include lattice masts, a new operations room, new type covered bridge, modernised armament and improved habitability.

Note to Drawing
Represents *Belfast* after conversion. Port elevation and plan. Redrawn in 1959. Scale: 128 feet=1 inch.

Armour Notes
Reported to have been designed to withstand 8-inch shell-fire. Armour extends over entire length of citadel, and protective deck right across ship's breadth above magazines.

Photograph Notes
A dead broadside view of *Belfast* appears on page 472 (Addenda) of the 1959-60 edition. A starboard broadside view of the ship before reconstruction appears in the 1957-58 and 1958-59 editions.

Class Notes
Sister ship *Edinburgh* was lost in action on 2 May, 1942.



SHEFFIELD *Added* 1960, *Official*

1 " Southampton " Class

SHEFFIELD

Pennant No.:	C 24
Builders:	Vickers-Armstrongs Ltd., Tyne
Laid down:	31 Jan. 1935
Launched:	23 July 1936
Completed:	25 Aug. 1937
Displacement:	9,100 tons *standard* (12,400 tons *full load*)
Dimensions:	Length: 558 (*pp.*), 584 (*w.l.*), 591½ (*o.a.*) feet. Beam: 61⅔ (*w.l.*), 64 (*o.a.*) feet. Draught: 17 (*mean*), 21 (*max.*) feet
Guns:	9—6 inch, 8—4 inch AA., 18—40 mm. AA.
Tubes:	6—21 inch (tripled)
Armour:	4"—3" side, 4" C.T., 2"—1" turrets, 2" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 75,000=32·5 kts. (designed)
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,970 tons
Radius:	7,000 miles at 14 kts.
Complement:	706-717 (peace)

General Notes
Built under the 1934 Navy Estimates. Ordered on 17 Dec. 1934. Protection is somewhat better than in previous classes. Special ventilating trunks have been installed, with openings on either side of hull at break of deck level abreast of " B " turret.

Gunnery Notes
At end of the Second World War " X " triple 6-inch turret was removed and replaced by 40 mm. anti-aircraft guns. Centre gun of each 6 inch turret is mounted slightly farther back than other two. Each turret weighs 135 tons. Each gun weighs 7 tons. Shell fired weighs 1 cwt. New 4 inch directors abreast forefunnel.

Reconstruction Notes
Reconstructed and modernised, modifications including new bridge structure rebuilt with revised armament arrangements and air conditioning, new lattice foremast, but tripod mainmast retained. She underwent a long refit in 1949-51 and was again extensively modified June 1956-June 1957. In 1959-60 she was refitted and put in a state of preservation in operational reserve. With the maintenance ship *Mull of Galloway* she relieved the battleship *Vanguard* as joint Headquarters of the Reserve Fleet, Portsmouth.

Anti-Radiation Notes
The ship is fitted with several modern devices to help her to fight in areas of atomic radiation. Her bridge is enclosed and she is fitted with powerful pre-wetting systems.

Engineering Notes
Engined by Vickers-Armstrongs Ltd., Barrow. Each propeller weighs 12½ tons. Sea speed is about 32 kts.

Appearance Notes
Larger than " Colony " class with raked funnels and former hangar structure. Lattice foremast and tripod mainmast.

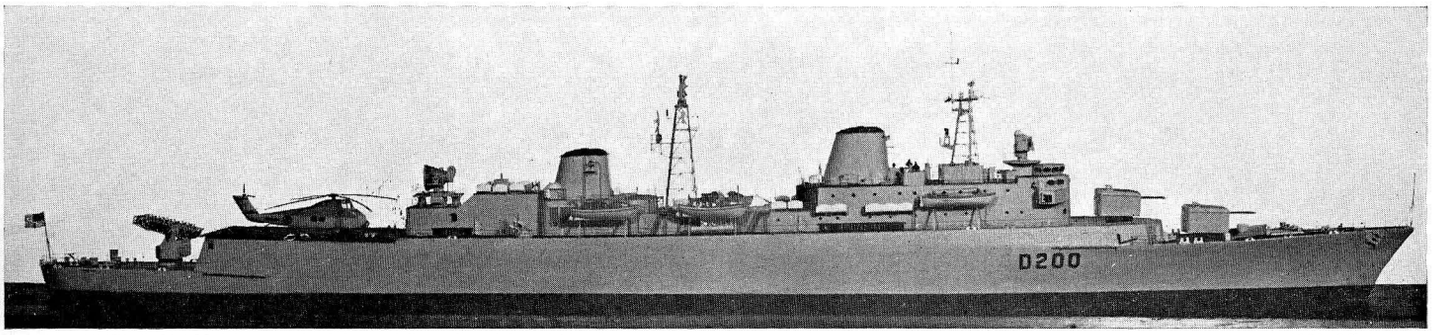
Photograph Notes
An aerial photograph of *Birmingham* appears in the 1959-60 edition, a larger photograph of *Sheffield* in the 1957-58 to 1959-60 editions, and photographs of *Glasgow* and *Newcastle* in the 1957-58 and earlier editions.

Drawing Notes
A plan and elevation drawing of this class appears in the 1959-60 edition. Also see port elevation silhouette drawing on page 5 of this edition.

Class Notes
Sister ships *Gloucester*, *Manchester* and *Southampton* were lost during the Second World War.

Recent Disposals
Sister ships *Glasgow* and *Liverpool* were scrapped in 1958, *Newcastle* was scrapped in 1959 and *Birmingham* was scrapped in 1960.

GUIDED MISSILE DESTROYERS



"COUNTY" CLASS (photograph of the model) starboard broadside 1959, *Official*

4 New Construction. "County" Class

DEVONSHIRE
HAMPSHIRE
KENT
LONDON

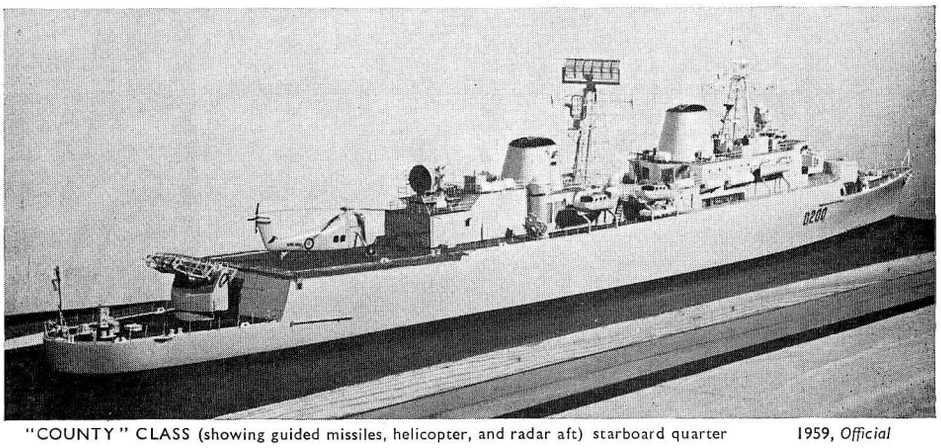
Displacement:	5,200 tons *standard* (6,200 tons *full load*)
Dimensions:	520½ × 54 × 16 (*mean*), 20 (*max.*) feet
Guns:	4—4·5 inch (two twin turrets forward)
Aircraft:	1 Westland Wessex helicopter
Guided weapons:	1 launcher aft for "Seaslug" ship-to-air guided missiles 2 "Seacat" close range ship-to-air missiles
Torpedo Tubes:	6—21 inch (2 triple)
Machinery:	2 sets geared steam turbines. 2 shafts. S.H.P.: 60,000, boosted by gas turbines = 32·5 kts.
Boilers:	2 Babcock & Wilcox
Complement:	440 (33 officers, 407 ratings)

General Notes
Two fleet escorts, bigger than the "Daring" class, and designed to embody the newest developments in the destroyer field, were projected under the 1955-56 Navy Estimates, and it was subsequently found possible to design these vessels with guided weapons instead of with anti-aircraft guns. They will also carry very modern anti-submarine, radar and communications equipment. Two more vessels of the super-destroyer type were provided for under the 1956-57 Navy Estimates. It was officially stated in the 1957-58 Navy Estimates that the design for these vessels had now emerged as larger than the present conventional types of Fleet Escort. They will have a very powerful armament and an endurance which will give them a considerable capacity for operating on their own. *Devonshire* and *Hampshire* are the names assigned to the first two large guided missile destroyers provided for under the 1955-56 programme. All four ships will be fitted with stabilisers.

Torpedo Notes
The class will carry a new type of homing torpedo to combat submarines.

Anti-Submarine Notes
In addition to anti-submarine torpedoes and an anti-submarine helicopter, the ships will be fitted with the latest underwater detection equipment for anti-submarine work.

Operational Notes
The ships are designed to be able to operate in "fall out" areas after an atomic attack. As many deck installations will be under cover the vessels will have clean lines, and this will facilitate "washing down" in the event of attack by nuclear weapons.



"COUNTY" CLASS (showing guided missiles, helicopter, and radar aft) starboard quarter 1959, *Official*

Guided Weapon Notes
Officially stated that the four vessels will be the first to join the Fleet armed with the guided missile "Seaslug" for long ranges (the launching ramp is mounted on the quarter deck) and "Seacat" weapons for short ranges (launchers for which are mounted abaft the after funnel).

Gunnery Notes
The 4—4·5 inch guns are radar controlled, fully automatic dual-purpose quick-firing weapons for attack and defence against ships and aircraft.

Engineering Notes
These new super destroyers will be the first vessels of their size to have gas turbine boosted propulsion (combined steam and gas turbine) machinery plants of exceptionally compact and light design, enabling the amount of fighting equipment to be increased. See *Engineering Notes* under General Purpose Frigates on a later page.

Photograph Notes
A starboard bow view of the official model appears in the Addenda of the 1959-60 edition.

Helicopter Notes
The landing space for the helicopter carried by this class of ship is at the after end of the upper deck where anti-submarine weapons would be normally mounted. The Westland Wess x aircraft is the first helicopter to be fitted as a complete "hunter killer."

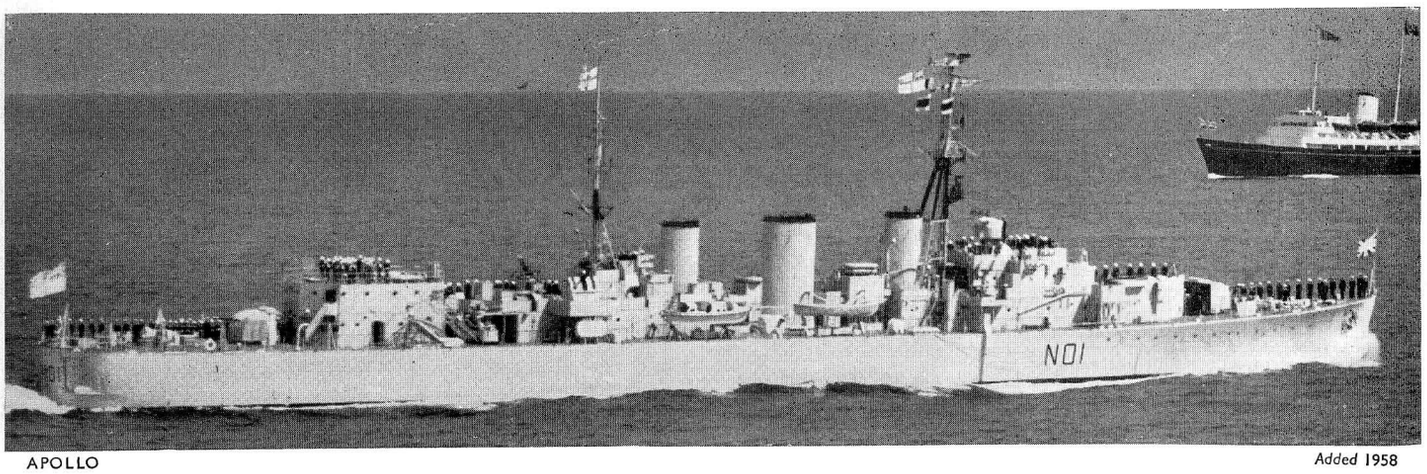
Radar Notes
Each ship will be exceptionally well equipped with the latest "watching" and "warning" radar.

Habitability Notes
All vessels are to have the latest accommodation standards and will be fully air-conditioned.

Appearance Notes
First design provided for long, low-lying vessels with two widely spaced, squat raked funnels, two stump masts, main guns forward, guided weapon on the quarter deck, and anti-submarine weapons on the break of the forecastle deck aft; but there have been several recastings of the design.

Name	*No.*	*Builders*	*Laid down*	*Launched*
Devonshire	D 02	Cammell Laird & Co. (Shipbuilders & Engineers) Ltd., Birkenhead	9 Mar. 1959	10 June 1960
Hampshire	D 06	John Brown & Co. (Clydebank) Ltd., Glasgow	24 Mar. 1959	Late 1960
Kent		Harland & Wolff Ltd., Belfast	Late 1959	
London		Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne	Early 1960	

FAST MINELAYERS



APOLLO *Added* 1958

3 "Manxman" Class

APOLLO **ARIADNE** **MANXMAN**

Displacement:	2,650 tons *standard* (4,000 tons *full load*)
Dimensions:	418 (*o.a.*) × 40 × 11½ feet (16 feet *max.*)
Guns:	*Apollo*, 4—4 inch, 6—40 mm. Bofors AA.; *Ariadne*, 4—4 inch, 11—40 mm. Bofors AA.; *Manxman*, 4—4 inch (two twin mounts forward), 6—40 mm. Bofors AA.
Mines:	108 (160 capacity)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 72,000 = 40 kts. designed *max.* (sea speed less)
Boilers:	4 Admiralty 3-drum type
Radius:	1,000 miles at 40 kts.
Complement:	242-246 (peace)

Conversion Notes
Manxman is being adapted as a Minesweeper Support Ship.

Photograph Notes
A photograph of *Manxman* appears in the 1957-58 edition.

General Notes
Manxman built under 1938 Estimates; others are war construction. Former ship was torpedoed by an enemy submarine and badly damaged, Nov. 1942. War losses of this type: *Abdiel*, *Latona*, *Welshman*, all 1938 Programme.

Appearance Notes
Armament of *Manxman* differs considerably from that of *Ariadne* and *Apollo*. Latter had deck house built on at end of 1954, and *Manxman* had longer deck house built on at end of 1955, after twin 4-inch gun mounting having been removed.

Pennant No.	*Name*	*Builders and Engineers*	*Laid down*	*Launched*	*Completed*
N 01	*Apollo*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn	10 Oct. 1941	5 Apr. 1943	12 Feb. 1944
N 65	*Ariadne*	Alex. Stephen & Sons, Ltd., Glasgow	15 Nov. 1941	16 Feb. 1943	9 Oct. 1943
N 70	*Manxman*	Alex. Stephen & Sons, Ltd., Glasgow	24 Mar. 1939	5 Sep. 1940	20 June 1941

DESTROYERS



DELIGHT (after refit with deckhouse in place of after torpedo tubes) starboard broadside surface view — 1960 ,*Official*

8 " Daring " Class

DAINTY — **DELIGHT** (ex-*Disdain*, ex-*Ypres*)
DARING — **DIAMOND**
DECOY (ex-*Dragon*) — **DIANA** (ex-*Druid*)
DEFENDER (ex-*Dogstar*) — **DUCHESS**

Displacement:	2,800 tons *standard* (3,600 tons *full load*) officially revised figures
Dimensions:	366 (*pp.*), 390 (*o.a.*) × 43 × 12¾ (*mean*), 17 (*max.*) feet
Guns:	6—4.5 inch, in twin turrets, two forward and one aft, 4 or 6—40 mm. Bofors AA. (See *Gunnery Notes*)
Tubes:	5—21 inch, in one pentad mounting. (See *Torpedo Notes*)
Guided weapons:	" Seacat " in *Decoy* and *Duchess* (see *Guided Missile Notes*)
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	Parsons double reduction geared turbines. English Electric Co. design in Yarrow ships. 2 shafts. S.H.P.: 54,000=34·75 kts. (*designed*), 30·5 kts. sea speed
Boilers:	2 Foster-Wheeler in *Dainty*, *Defender*, *Diamond* and *Duchess*, 2 Babcock & Wilcox in *Daring*, *Decoy*, *Delight* and *Diana*
Radius:	3,000 miles at 20 kts.
Complement:	308 (*Daring* and *Diamond* as leaders) 297 *Diana*, 295 *Decoy* and *Delight*, 286 *Dainty*, 278 (others)

General Notes
These destroyers can perform a number of roles including cruiser reconnaissance, and act as anti-submarine or anti-ship craft. All are fitted as leaders. They constitute an expansion and merging of the " Weapon " and the " Battle " design with increased armament, and were the largest destroyers ever built for the Royal Navy. Of all-welded hull construction. The basic plan was a war-time design, although they incorporated improvements subsequently devised. They represent a most ingenious and comprehensive light warship class. Habitability and layout of accommodation are of a high standard. They have improved anti-aircraft and anti-submarine systems. Cost £2,047,000 to £2,880,000 each.

Guided Missile Notes
Decoy has been fitted, *Duchess* is being fitted, and the remaining ships of the class will eventually be fitted, with " Seacat " surface-to-air guided missiles abaft the second funnel above the mess deck as close range anti-aircraft armament.

Gunnery Notes
The 4·5 inch turrets are of a new type, fully automatic and radar controlled. The 40 mm. twin mountings abreast c.t. are also fully automatic and radar controlled. The 40 mm. twin mounting abaft second (visible) funnel is semi-automatic. In 1959 *Decoy* had her after twin Bofors removed and replaced by a deckhouse support for " Seacat " guided missles. *Duchess*, as leader, has 4—3 pdr. saluting guns on the after 4·5 inch gun deck.

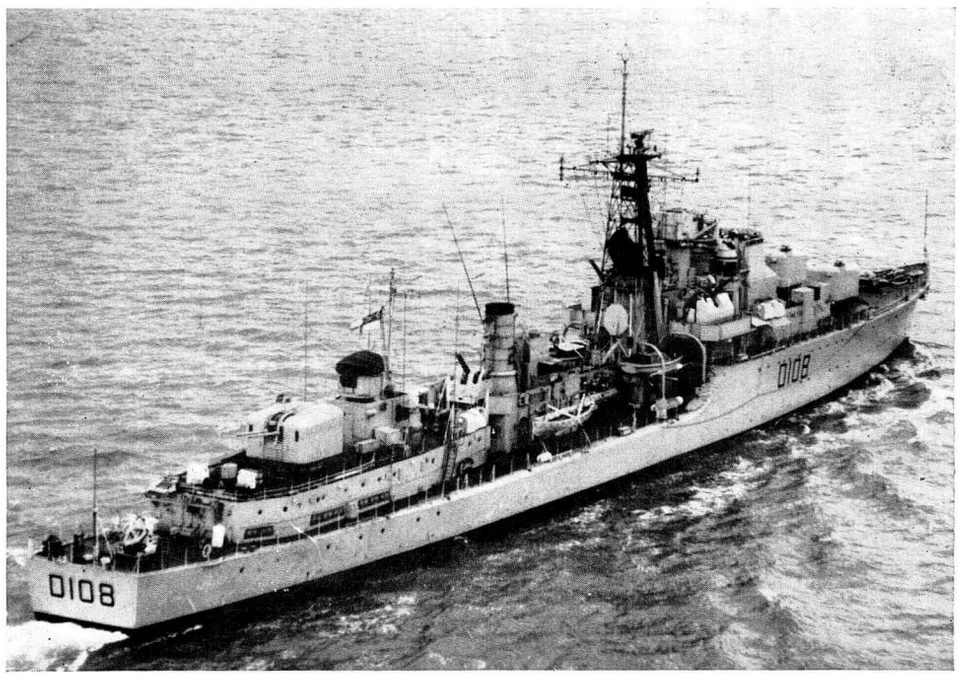
Torpedo Notes
These ships originally mounted 10—21 inch torpedo tubes, but the after bank of five tubes was removed in 1958-59 and replaced by a deck house for extra mess accommodation and " Seacat " guided missile support.

Engineering Notes
The main propelling machinery is of advanced design developed by PAMETRADA (Parsons and Marine Engineering Turbine Research and Development Association) and manufactured by Wallsend Slipway & Engineering Co. Ltd., in *Daring*, and by builders in others. Steam conditions were the highest used in ships of the Royal Navy, the boilers being designed for superheat control.

Electrical Notes
All-electric galleys, laundry and fluorescent lighting. In four ships, *Decoy*, *Diamond*, *Diana* and *Duchess*, the electrical plant differs from previous practice in ships of the Royal Navy in that it is an alternating current installation, operating at 440 volts, 3-phase, 60-cycles per second. Remaining four ships, *Dainty*, *Daring*, *Defender* and *Delight* have direct current at 220 volts.

Appearance Notes
Duchess has a new deckhouse abaft the after funnel. In *Decoy* the deckhouse replacing the after tubes is built out with a platform reaching the ship's sides, supported by light stanchions, for " Seacat " guided missile support.

Modernisation Notes
Dainty, *Daring*, *Defender* and *Delight* are to be modernised in 1961.



DAINTY (starboard quarter aeria view) — 1960, *Official*



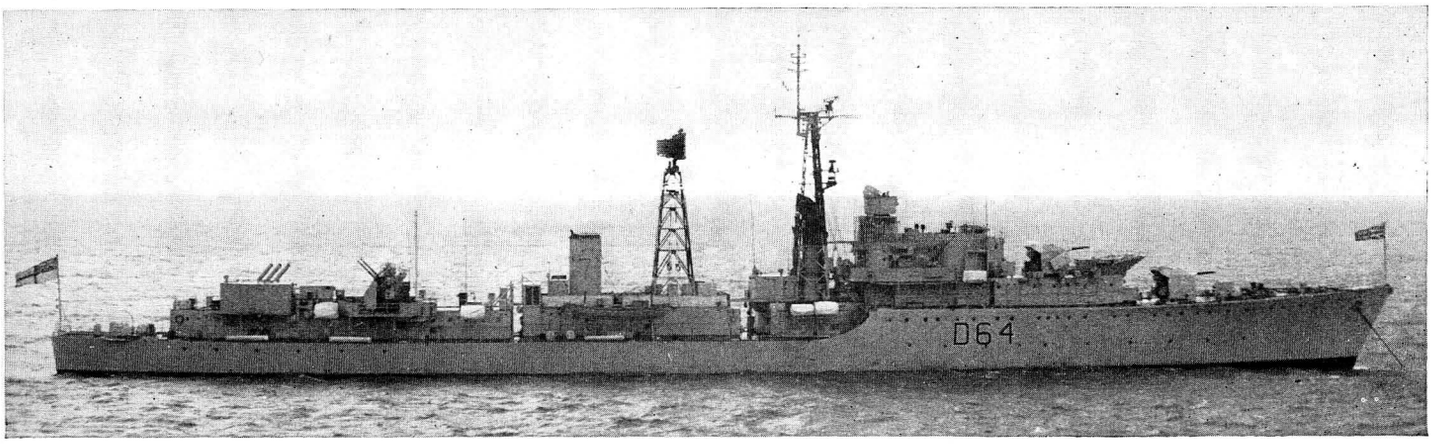
DIANA (before refit—ten tubes) port bow aerial view — *Added* 1960, *Official*

Class Notes
Eight other units of this class ordered under the Second World War Construction Programme but cancelled after cessation of hostilities were *Danae*, original *Decoy*, original *Delight*, *Demon*, *Dervish*, *Desire*, *Desperate* and *Doughty*.

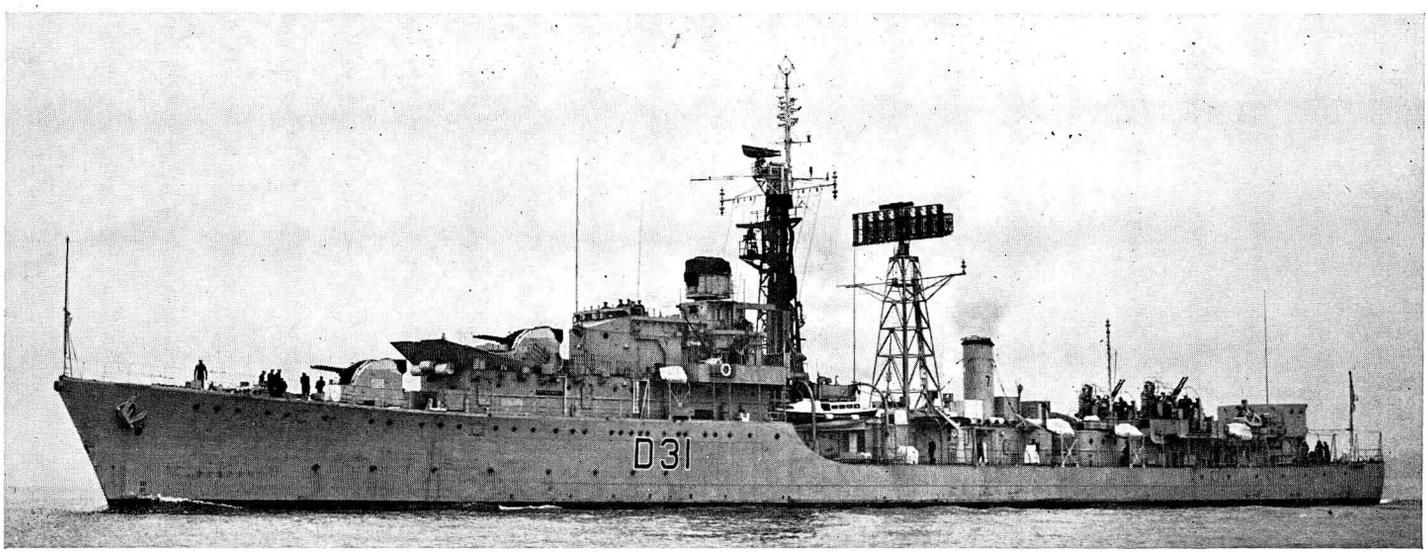
Photograph Notes
Photographs of *Daring* and *Diamond* in the 1957-58 edition. Port bow oblique aerial view of *Duchess* in 1957-58 (Diamond Jubilee) and 1958-59 editions. Photographs of *Decoy* and *Defender* in the 1959-60 edition.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 108	*Dainty*	J. Samuel White & Co. Ltd., Cowes	17 Dec. 1945	16 Aug. 1950	26 Feb. 1953
D 05	*Daring*	Swan, Hunter & Wigham Richardson	29 Sep. 1945	10 Aug. 1949	8 Mar. 1952
D 106	*Decoy*	Yarrow & Co. Ltd., Scotstoun	22 Sep. 1946	29 Mar. 1949	28 Apr. 1953
D 114	*Defender*	Alex. Stephen & Sons, Ltd., Govan	22 Mar. 1949	27 July 1950	5 Dec. 1952
D 119	*Delight*	Fairfield S.B. & Eng. Co. Ltd., Govan	5 Sep. 1946	21 Dec. 1950	9 Oct. 1953
D 35	*Diamond*	John Brown & Co. Ltd., Clydebank	15 Mar. 1949	14 June 1950	21 Feb. 1952
D 126	*Diana*	Yarrow & Co. Ltd., Scotstoun	3 Apr. 1947	8 May 1952	29 Mar. 1954
D 154	*Duchess*	John I. Thornycroft & Co. Ltd., Woolston	2 July 1948	9 Apr. 1951	23 Oct. 1952

RADAR PICKET DESTROYERS



SCORPION (after conversion—Limbo aft) starboard broadside view — 1960, *Official*



BROADSWORD (after conversion—Squids aft) port bow view — 1959, *Wright & Logan*

4 " Weapon " Class

BATTLEAXE (Leader) **CROSSBOW**
BROADSWORD **SCORPION** (ex-*Tomahawk*, ex-*Centaur*)

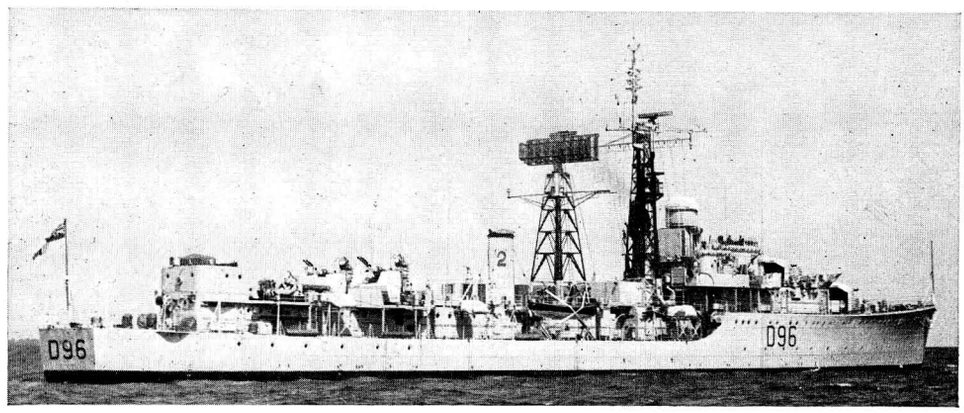
Displacement:	2,280 tons *standard* (2,935 tons *full load*), officially revised figures
Dimensions:	341½ (*pp.*), 365 (*o.a.*) × 38 × 12¾ (*mean*), 17 (*max.*) feet
Guns:	4—4 inch (in twin mounts), 6—40 mm. AA.
A/S weapons:	*Scorpion:* 1 " Limbo " three-barrelled depth bomb mortar. *Battleaxe Broadsword, Crossbow:* 2 "Squid" triple-barrelled depth charge mortars.
Tubes:	Removed. (See *Torpedo Notes*)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts. (designed), 30·75 kts. sea speed
Boilers:	2 Foster-Wheeler, with controlled superheat of 750 degrees F. and working pressure of 430 lb. per sq. inch
Radius:	5,000 miles at 15 kts.
Complement:	234 (as Leader, 256)

General Notes

These destroyers were originally armed and equipped as fleet anti-submarine escorts. They embody novel features in ship and engine design. All four ships are fitted as Leaders. Fifteen more destroyers of this type were cancelled at the end of the Second World War at least three of which were actually launched before construction was abandoned. Cancelled names were *Carronade*, *Claymore*, *Culverin*, *Cutlass*, *Dagger*, *Dirk*, *Grenade*, *Halberd*, *Howitzer*, *Longbow*, *Musket*, *Poinard*, *Rifle*, *Spear* and *Sword*, i.e. 4 of 1st Flotilla, 8 of 2nd Flotilla and 3 of 3rd Flotilla. The four existing vessels were originally, like the others, a 6—4 inch design in 3 twin shields. The anti-submarine version with only 4—4 inch guns was a revised design for the four launched hulls.

Gunnery Notes

Crossbow and *Scorpion* had their 4-inch disposed in " A " and "B" positions but in *Battleaxe* and *Broadsword* they were originally mounted in " A " and " X " positions. The 40 mm. Bofors AA. pieces are of the newest type and radar controlled similar to those in the " Daring " and " Battle " classes. *Scorpion* had a new type " A " turret fixed experimentally, but she subsequently reverted to her usual " A " turret. (1955). During reconstruction and conversion in 1958-59 the control equipment in all four ships was brought up to date.



CROSSBOW (after conversion—Squids aft) starboard quarter view — 1960, *Official*

A/S Weapon Notes

Originally two Squids (triple barrelled depth charge mortars) were mounted in " B " position in *Battleaxe* and and *Broadsword*, and in " X " position in *Crossbow* and *Scorpion*. The latter subsequently had a single Limbo three-barrelled depth bomb mortar mounted in " X " position.

Torpedo Notes

These vessels originally carried 10—21 inch torpedo tubes, but both quintuple sets were removed during reconstruction in 1958-59 and replaced by deck-houses.

Engineering Notes

There are two engine-rooms and two boiler-rooms, arranged alternately *en echelon*.

Conversion Notes

These four ships were modernised and converted to radar picket (aircraft direction) destroyers in 1958-59 when they had a second lattice mast installed amidships to carry a new type of air warning radar. *Broadsword* completed her conversion and commissioned on 30 Sep. 1958.

Appearance Notes

These vessels were the first two-funnelled destroyers since the pre-war " I " and " Tribal " classes, though the fore-funnel is not markedly apparent, being enveloped by the lattice foremast except for the protruding cowl top, and the second funnel is not very conspicuous, being a squat and vertical stack considerably farther aft. The four ships were originally of two types, easily distinguished—see *A/S Weapon Notes* and *Gunnery Notes* above. A noticeable feature of their new silhouette since the four ships were converted to radar pickets in 1958-59, is the second mast surmounted by a very prominent bedspring air warning radar aerial.

Photograph Notes

A starboard quarter view of *Scorpion* before conversion appears in the 1957-58, 1958-59 and 1959-60 editions. A starboard broadside view of *Crossbow* (in the Addenda) and a photograph of *Battleaxe* after conversion appear in the 1959-60 edition.

Habitability Notes

During reconstruction in 1958-59 the habitability was raised to the highest standard possible in this class of ship.

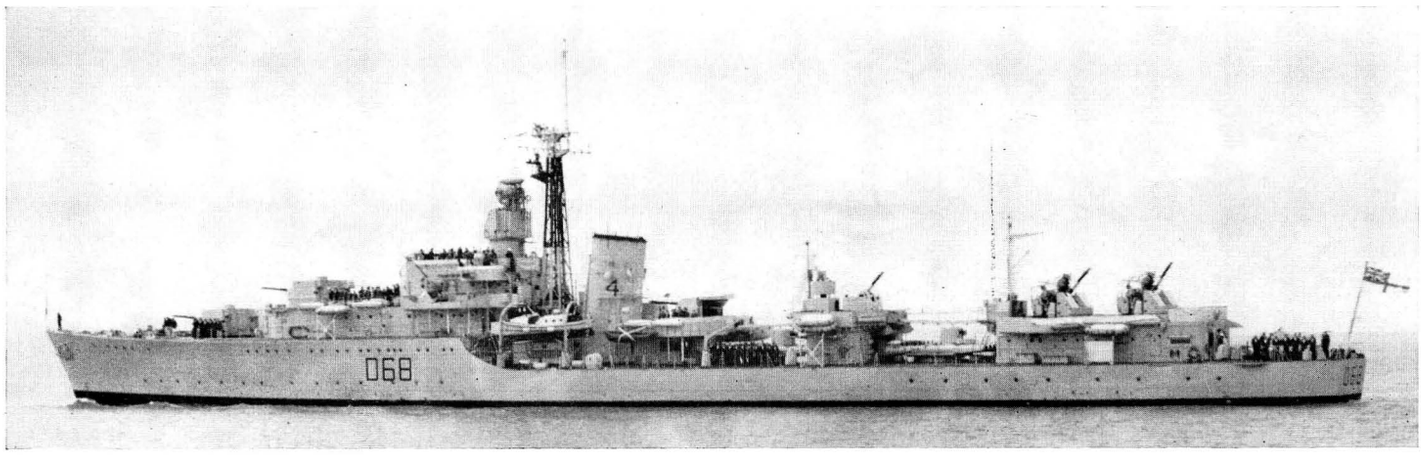
Class Notes

Cancelled ships of this class included *Carronade* (Scotts), *Culverin* (Thornycroft), *Cutlass* and *Dagger* (Yarrow), *Claymore* and *Dirk* (Scotts), *Halberd*, *Howitzer* (Thornycroft), *Longbow* (Thornycroft), *Musket* (White), *Ponaird*, *Rifle* and *Spear* (Denny), *Sword* (ex-*Celt*) (White), *Grenade*, *Lance* and *Rapier*. Of these, *Carronade*, *Culverin* and *Cutlass*, if not others, were actually launched before construction was abandoned.

Pennant No.	*Name*	*Builders*
D 118	*Battleaxe*	Yarrow & Co. Ltd., Scotstoun
D 31	*Broadsword*	Yarrow & Co. Ltd., Scotstoun
D 96	*Crossbow*	John I. Thornycroft & Co., Woolston
D 64	*Scorpion*	J. Samuel White & Co. Ltd., Cowes

Name	*Laid down*	*Launched*	*Completed*
Battleaxe	22 Apr. 1944	12 June 1945	23 Oct. 1947
Broadsword	20 July 1944	5 Feb. 1946	4 Oct. 1948
Crossbow	26 Aug. 1944	20 Dec. 1945	4 Mar. 1948
Scorpion	16 Dec. 1944	15 Aug. 1946	17 Dec. 1947

DESTROYERS



BARROSA

Added 1960 (*Photo* 1959), *Keith Long*



JUTLAND

1959, *Wright & Logan*

7 Later " Battle " Class

AGINCOURT
AISNE
BARROSA
CORUNNA
DUNKIRK
JUTLAND
MATAPAN

Displacement:	2,480 tons *standard* (3,430 tons *full load*), officially revised figures
Dimensions:	355 (*pp.*) 379 (*o.a.*) × 40½ × 12¾ (*mean*), 17½ (*max.*) feet
Guns:	5—4·5 inch, 8—40 mm. AA.
Tubes:	10—21 inch (quintupled)
A/S weapons:	1 Squid triple barrelled depth charge mortar
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 50,000=35·75 kts. (designed) 30·5 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	680 tons
Radius:	3,000 miles at 20 kts.
Complement:	232 to 268 (peace), 337 (war)

General Notes

Apart from a heavier armament, this class embodies several other improvements. *Agincourt*, *Alamein*, *Corunna* and *Jutland* were fitted as Leaders. Sixteen more destroyers of this type were cancelled at the end of the Second World War, at least 8 of which had been launched before construction was abandoned.

Gunnery Notes

United States Navy type fire control apparatus is fitted, also the latest type twin 40 mm. Bofors.

Pennant No. *Name* — *Builders*

D 86 *Agincourt* R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn
D 22 *Aisne* Vickers-Armstrongs Ltd., Tyne
D 68 *Barrosa* John Brown & Co. Ltd., Clydebank
D 97 *Corunna* Swan, Hunter & Wigham Richardson
D 09 *Dunkirk* Alex Stephen & Sons Ltd., Govan
D 62 *Jutland* Alex. Stephen & Sons Ltd., Govan
D 43 *Matapan* John Brown & Co. Ltd., Clydebank

Name	*Laid down*	*Launched*	*Completed*
Agincourt	12 Dec. 1943	29 Jan. 1945	25 June 1947
Aisne	26 Aug. 1943	12 May 1945	20 Mar. 1947
Barrosa	28 Dec. 1943	17 Jan. 1945	14 Feb. 1947
Corunna	12 Apr. 1944	29 May 1945	6 June 1947
Dunkirk	19 July 1944	27 Aug. 1945	27 Nov. 1946
Jutland	27 Nov. 1944	20 Feb. 1946	30 Apr. 1947
Matapan	11 Mar. 1944	30 Apr. 1945	5 Sep. 1947



DUNKIRK

1960, *A. & J. Pavia*



AGINCOURT

1957, *courtesy Ing. Augusto Nami*

Appearance Notes

Distinguished from Groups I and II (see Early " Battle " Class) by a very large director tower of U.S. pattern and single 4·5 inch abaft funnel, *Corunna* and *Dunkirk* have *H/F/D/F* mast aft.

Conversion Notes

The 1943 " Battle " class destroyers, including *Agincourt*, *Aisne*, *Barrosa* and *Corunna*, are being converted into fleet radar pickets (aircraft direction destroyers).

Photograph Notes

Photographs of *Alamein* in the 1957-58 and 1959-60 editions, and of *Corunna* in the 1955-56 to 1957-58 editions.

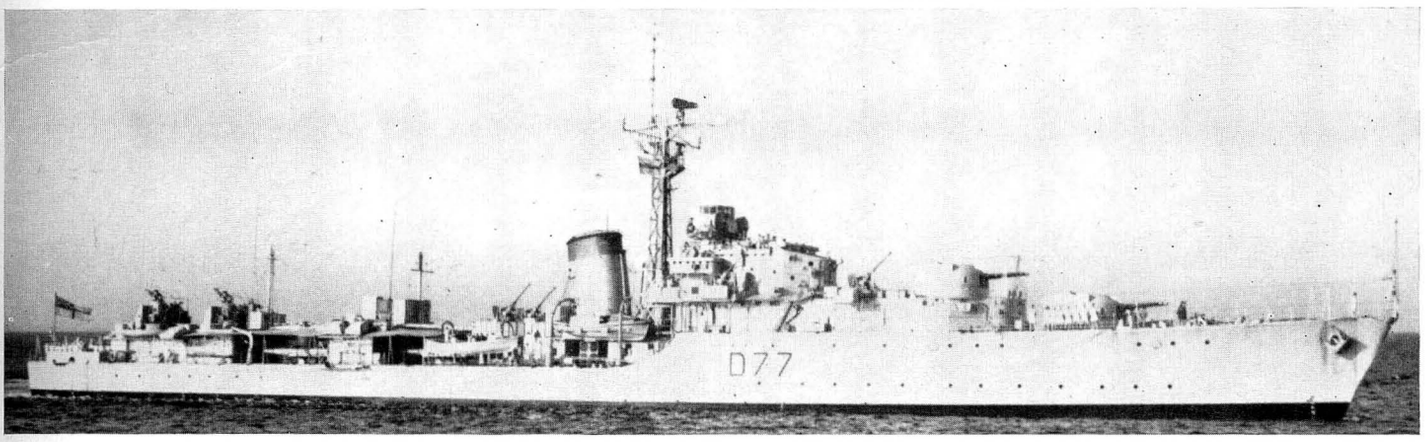
Class Notes

Sixteen more destroyers of this type were cancelled before completion, including original *Jutland*, *Mons*, *Poictiers* (all ordered from Hawthorn Leslie), *Namur*, *Navarino*, *San Domingo* (all Cammell Laird), *Talavera*, *Trincomalee* (both Clydebank), *Belleisle*, *Omdurman*, *Waterloo* (ex-*Vimiera*) all Fairfield), *St. Lucia* (Stephen), *Oudenarde*, *River Plate* (both Swan Hunter), *Albuera* (Vickers-Armstrongs), and *Somme* (Cammell Laird). At least 8 of these had been launched before cancellation.

Recent Disposals

Alamein is surplus to fleet requirements and is to be sold or scrapped in 1960.

Destroyers—*continued*



TRAFALGAR — 1960, *A. & J. Pavia*

7 Early " Battle " Class

GROUP II (Armada type)

2 *Cammell Laird*
GRAVELINES
SLUYS

2 *Hawthorn Leslie*
SAINTES
SOLEBAY

GROUP I (Trafalgar type)

1 *Swan Hunter*
TRAFALGAR

2 *Fairfield*
CAMPERDOWN
FINISTERRE

Displacement:	2,325 tons *standard* (3,361 tons *full load*), officially revised figures
Dimensions:	355 (*pp.*), 379 (*o.a.*) × 40¼ × 12⅔ (*mean*), 17 (*max.*) feet
Guns:	4—4·5 inch, 9—40 mm. AA. (formerly Group I also had 1—4 inch in " Q " position)
Tubes:	8—21 inch (quadrupled)
A/S weapons:	Squid triple barrelled depth charge mortar on starboard of AX
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 50,000=35·75 kts. (designed) 31 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	680 tons
Radius:	3,000 miles at 20 kts.
Complement:	247 to 308 (peace); 337 (war)

General Notes

These destroyers were designed with a view to operations in the Pacific. *Armada*, *Barfleur*, *Saintes*, *St. James*, *Solebay* and *Trafalgar* were fitted as Leaders. *Vigo* was employed as gunnery firing training ship until summer 1959.

Gunnery Notes

As completed all Group I carried 1—4 inch L.A. abaft funnel—now replaced by 40 mm. Bofors AA. The 4·5 inch guns have 85 degrees elevation. Group II and refitted Group I (*Lagos*, *Trafalgar*, etc.) have Bofors twin mountings of newest type.

Pennant

No.	Name	Laid down	Launched	Completed
D 32	*Camperdown*	30 Oct. 42	8 Feb. 44	18 June 45
D 55	*Finisterre*	8 Dec. 42	22 June 44	11 Sep. 45
D 24	*Gravelines*	10 Aug. 43	30 Nov. 44	14 June 46
D 84	*Saintes*	8 June 43	19 July 44	27 Sep. 46
D 60	*Sluys*	24 Nov. 43	28 Feb. 45	30 Sep. 46
D 70	*Solebay*	3 Feb. 43	22 Feb. 44	11 Oct. 45
D 77	*Trafalgar*	15 Feb. 43	12 Jan. 44	23 July 45

Appearance Notes

These ships were the first destroyers with all the main armament forward. There is little distinction now between Groups I and II.

Conversion Notes

Some of the 1943 " Battle " class destroyers are being converted into fleet pickets (see previous page).

Transfer Notes

Of this class, *Cadiz* and *Gabbard* were sold to the Pakistan Government in 1956, and have been renamed *Khaibar* and *Badr*, respectively.

Recent Disposals

It is officially stated that *Hogue* of this class is for disposal by scrapping in 1960.

Approval has also been given for the scrapping of *St. James* (reconstruction suspended).

Armada, *Barfleur*, *Lagos*, St. *Kitts* and *Vigo* are surplus to present naval requirements and will be sold in 1960.



LAGOS — 1960. *Official*

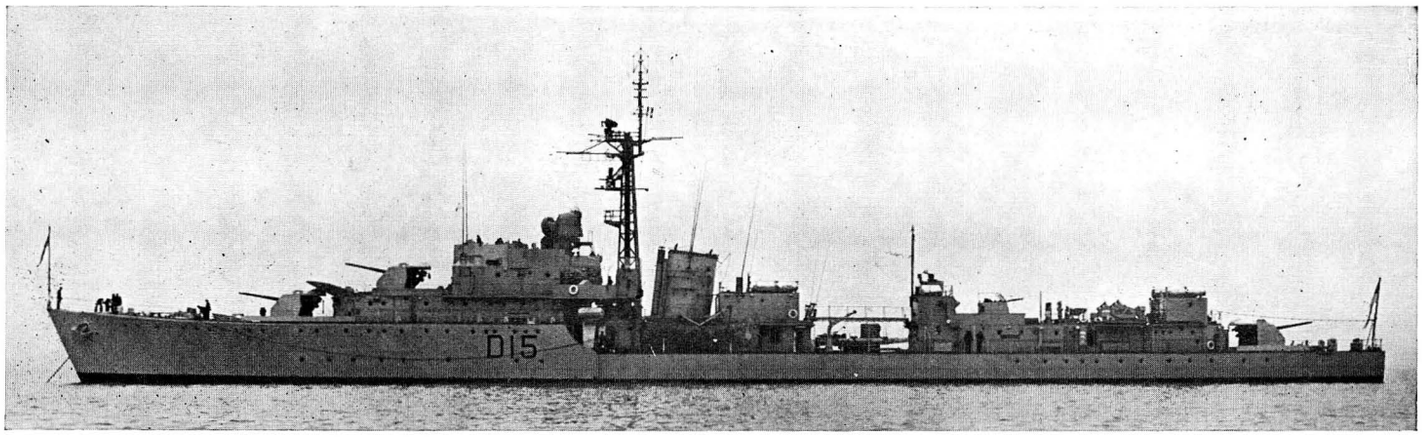


FINISTERRE — 1960, *A. & J. Pavia*

Photograph Notes

Photographs of *Armada*, *Hogue* and *Vigo* in the 1959-60 and earlier editions, of *Barfleur* and *St. Kitts* in the 1958-59 and 1957-58 editions, and of *Saintes* in the 1955-56 to 1957-58 editions.

Destroyers—*continued*



CAVENDISH — 1957, *Wright & Logan*

"C" Group
8 "Ca" Class
4 "Ch" Class

2 *Clydebank*
CAESAR (ex-*Ranger*)
CAVENDISH (ex-*Sybil*)

1 *Denny*
CHILDERS

3 *Scotts*
CAMBRIAN (ex-*Spitfire*)
CARRON (ex-*Strenuous*)
CHEQUERS (Leader)

1 *Stephen*
CHEVRON

1 *Thornycroft*
CHAPLET

2 *White*
CARYSFORT
CAVALIER

2 *Yarrow*
CAPRICE (ex-*Swallow*)
CASSANDRA (ex-*Tourmaline*)

Displacement:	Modernised ships: 2,020 tons *standard* (2,600 tons *full load*). Revised figures
Dimensions:	362¾ × 35¾ × 10 (*mean*), 16 (*max.*) feet
Guns:	3—4·5 inch, 4 or 6—40 mm. AA., or 2—4·5 inch, 4—40 mm. AA. with minelaying stern (see notes)
Tubes:	4—21 inch (quadrupled)
A/S weapons	2 squid triple-barrelled depth charge mortars in "X" position
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts.(designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	186 (Leaders, 222)

General Notes

The "C" group of destroyers were of emergency war design. They were built as 4 flotillas, i.e. "Caesar," "Chequers," "Cossack," and "Crescent" classes. Of the "Cr" class, *Crescent* and *Crusader* were transferred to the Royal Canadian Navy in 1945, *Cromwell*, *Crown*, *Croziers* and *Crystal* were sold to Norway in 1946, and *Creole* and *Crispin* were sold to Pakistan in 1956. Of the "Ch" class, *Chivalrous* was transferred to the Pakistan Navy in 1953 and *Charity* in 1958.

Appearance Notes

Most ships now have tall lattice masts. All have, or will have, "X" gun removed and "Y" gun removed from minelayers. There are now many variations in appearance as they have been reconstructed and refitted for anti-submarine warfare and minelaying, and modernised. The ships recently converted ("Ca" class) underwent a much more extensive refit than those previously modernised with superstructure extended aft and modified bridge. *Carron* was subsequently modified for use as a Dartmouth Training Ship, with 2—4·5 inch, 4—40 mm. AA., no squids; but she reverted to 3—4·5 inch. squids, etc. after leaving the Dartmouth Training Squadron and in 1960 she relieved *Redpole* as Navigation Tender in the Portsmouth Squadron. *Chequers* is fitted as a squadron leader. *Chaplet* is fitted as a minelayer.

Gunnery Notes

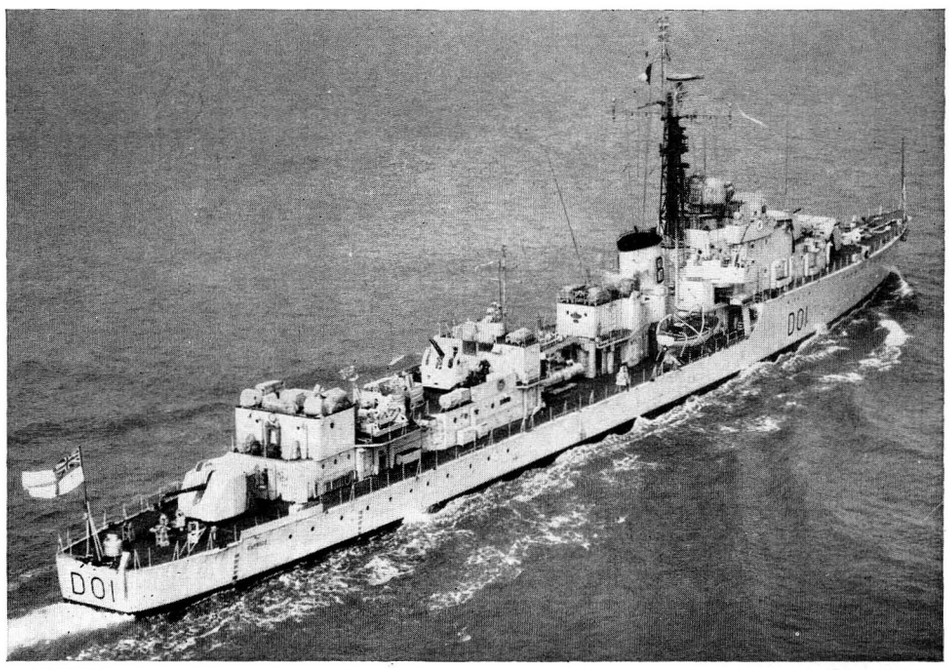
Caesar, *Cambrian* and *Cassandra* retained their 4—4·5 inch and 6—40 mm. guns (also 8—21 inch torpedo tubes) when they were refitted in 1955, but are undergoing the standard "Ca" class more extensive modernisation.

Recent Disposals

Constance was scrapped in 1956. *Conus* was scrapped in 1958. *Contest* and *Cossack* were scrapped in 1960.

Chieftain, *Cockade*, *Comet* and *Consort* are surplus to fleet requirements and are being disposed of in 1960. *Concord* is attached to the training establishment *Caledonia*, and *Cheviot* is to relieve the frigate *Talybont* as "dead" training ship attached to *Caledonia*.

Pen. No.	Name	Laid down	Launched	Completed
D 07	*Caesar*	3 Apr. 43	14 Feb. 44	5 Oct. 44
D 85	*Cambrian*	14 Aug. 42	10 Dec. 43	17 July 44
D 01	*Caprice*	28 Sep. 42	16 Sep. 43	5 Apr. 44
D 30	*Carron*	26 Nov. 42	28 Mar. 44	6 Nov. 44
D 25	*Carysfort*	12 May 43	25 July 44	20 Feb. 45
D 10	*Cassandra*	30 Jan. 43	29 Nov. 43	28 July 44
D 73	*Cavalier*	28 Feb. 43	7 Apr. 44	22 Nov. 44
D 15	*Cavendish*	19 May 43	12 Apr. 44	13 Dec. 44
D 52	*Chaplet*	29 Apr. 43	18 July 44	24 Aug. 45
D 61	*Chequers*	4 May 43	30 Oct. 44	28 Sep. 45
D 51	*Chevron*	18 Mar. 43	23 Feb. 44	23 Aug. 45
D 91	*Childers*	27 Nov. 43	27 Feb. 45	19 Dec. 45



CAPRICE — 1960, *Official*



CARYSFORT — *Added* 1959, *Wright & Logan*



CHAPLET (minelaying stern) — 1959, *Wright & Logan*

Photograph Notes

Photograph of *Contest* in the 1959-60 edition, of *Cavalier* and *Chieftain* in the 1958-59 edition, and of *Carron* and *Chevron* in the 1957-58 edition.

MINELAYING DESTROYER

1 "Obdurate" Class

OBEDIENT

Pennant No.: D 248
Builders: Wm. Denny & Bros. Ltd., Dumbarton
Laid down: 22 May 1940
Launched: 30 Apr. 1942
Completed: 30 Oct. 1942

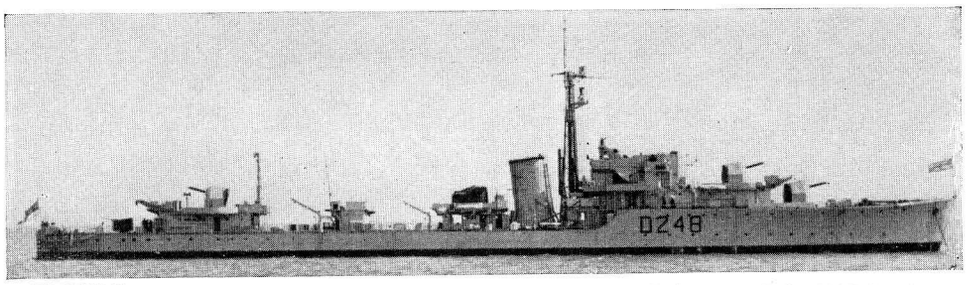
Displacement:	1,900 tons *standard* (2,420 tons *full load*). Revised figures.
Dimensions:	338½ (*pp.*), 345 (*o.a.*) × 35 × 9 (*mean*) 15⅔ (*max.*) feet
Guns:	3—4 inch, 4—2 pdr., 3—40 mm. AA.
Tubes:	Removed
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	430 tons
Radius:	1,700 miles at 20 kts.
Complement:	180

General Notes

The surviving units of this class were refitted as minelayers. They had old type 4-inch guns. They were the first destroyers built under War Construction Programme. *Oribi* was transferred to the Turkish Navy and renamed *Gayret*, and *Offa*, *Onslaught* and *Onslow* were transferred to the Pakistan Navy, and renamed *Tarig*, *Tughril* and *Tippu Sultan*, respectively; *Orwell* was converted into a fast anti-submarine frigate (see later page) in 1952. *Obdurate* and *Obedient* were also scheduled to be converted into fast anti-submarine frigates limited conversion, but this project was abandoned.

Recent Disposals

Sister ship *Opportune* was scrapped in 1955, and *Obdurate* is being expended in tests at the Naval Construction Research Establishment at Rosyth.



OBEDIENT — 1954, *courtesy Godfrey H. Walker, Esq.*

Recent Disposals of other Destroyers

Musketeer was broken up in 1956. The four remaining ships of the "M" class, *Marne*, *Matchless*, *Meteor* and *Milne* were transferred to Turkey on 16 Aug. 1957. (Formally handed over, after refit, on 29 June 1959.) Four of the "N" class *Napier*, *Nepal*, *Nizam* and *Noble* were scrapped in 1956, and *Norman* was scrapped in 1958.

The two remaining destroyers of the "Zambesi" class, *Zambesi* and *Zebra*, were scrapped in 1959 (*Zephyr* was handed over to the British Iron & Steel Corporation in June 1958).

The sole surviving destroyer of the "S" class, *Savage*, is being disposed of in 1960.

GENERAL PURPOSE FRIGATES

7 "Tribal" Class. Type 81
New Construction
1st Rate (*Destroyer Type*)

ASHANTI **GURKHA** **NUBIAN**
ESKIMO **MOHAWK** **TARTAR**
ZULU

Displacement:	2,300 tons *standard* (2,700 tons *full load*)
Dimensions:	360 (*o.a.*) × 42½ × 12 feet
Guns:	2—4·5 inch d.p. (two single turrets); 2—40 mm. Bofors AA. (twin mounting Mk. 5)
Tubes:	6—21 inch
A/S weapons:	1 Limbo three-barrelled depth bomb mortar
Guided missiles:	2 "Seacat" close range ship-to-air
Aircraft:	1 helicopter
Machinery:	1 Metrovik geared steam turbine, H.P.: 15,000, boosted by 1 Metrovik gas turbine, H.P.: 7,500. 1 shaft. Total S.H.P.: 22,500=28 kts.
Boilers:	1 Babcock & Wilcox
Complement:	230

General Notes

Three general purpose frigates capable of meeting the main escort functions of anti-submarine protection, anti-aircraft protection, and aircraft direction, were ordered under the 1955-56 Navy Estimates, and four more, designed to fulfil economically all the functions of frigates rather than to have an outstanding performance in any one specialised role, were ordered under the 1956-57 and 1957-58 Navy Estimates. These versatile ships will have two funnels like destroyers and are designed for general duties formerly undertaken by destroyers. Officially stated that the new general purpose frigates will be fully air conditioned in all accommodation spaces and most working spaces.

Turbine Design Notes

These ships have COSAG (combined steam and gas turbine) machinery plants. The engines are right aft.

The following is an official statement concerning the new type of turbine installation for the Royal Navy:

Orders have been placed for prototype propulsion machinery installations of a new and revolutionary type for use in frigates and fast escort vessels.

The principle employed is that of highly efficient steam turbines and gas turbines geared to the same propeller shaft. The gas turbines provide a high concentration of power in a very compact form and will be used to boost the steam turbines for sustained bursts of high speed.

The machinery installations have been conceived and designed by Yarrow-Admiralty Research Department of Messrs. Yarrow & Co. Ltd., Scotstoun, Glasgow, in conjunction with the Admiralty. Messrs. Metropolitan-Vickers Electrical Co. Ltd., Manchester, are designing and manufacturing the steam turbines, gas turbines, gearing and control gear, and will carry out full scale shore tests on a large part of the prototype equipment at their Manchester Works.

Warships in which this lightweight and compact machinery is installed will be enabled to carry more fighting equipment than would otherwise be possible with orthodox machinery.

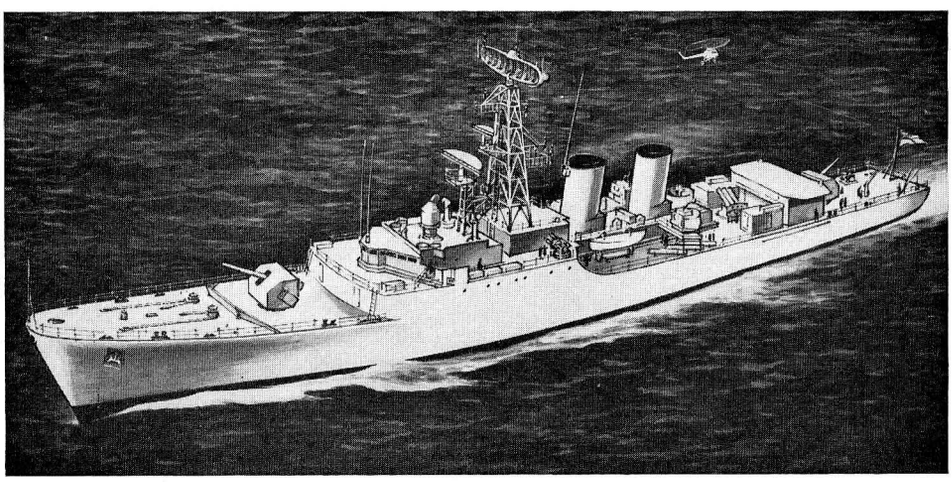
The following is an extract from a speech by the First Sea Lord to the Institution of Naval Architects about "another phase of machinery development in the Royal Navy—the introduction of the gas turbine.

"We have just placed orders for a number of guided weapon destroyers and general purpose frigates fitted with a combination of steam turbines and gas turbines. The advantages of this combination are that the gas turbine can be used as a booster at the higher powers and, what is even more important, *it can enable the ship to get underway at a few minutes' notice when steam is not available.*"

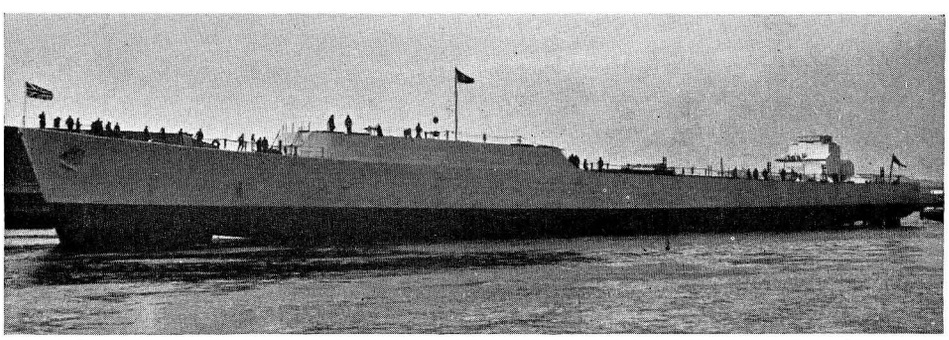
Building Notes

The *Ashanti* is officially nominated as the prototype of the new general purpose frigates. She was launched on 9 Mar. 1959.

The *Nubian* was taken in hand for prefabrication at H.M. Dockyard, Portsmouth, on 17 Feb. 1958. She was formally laid down on 7 Sep. 1959, and will be launched on 6 Sep. 1960.



ASHANTI (artist's impression) — 1959, *Official*



ASHANTI (immediately after launch) — 9th March, 1959

Anti-Submarine Notes

The "Ashanti" class are the first frigates designed to carry a helicopter for anti-submarine reconnaissance.

Operational Notes

These ships will have a totally enclosed bridge and an air-conditioned operations room. They are to be equipped with warning radar of the most modern design. They are fitted with stabilisers and have two rudders.

Engineering Notes

The propulsion machinery is of a novel kind. A steam turbine provides the power for normal cruising and manoeuvring. A gas turbine driving on to the same propeller shaft provides the additional power for high speed steaming. This gas turbine also enables the ship lying in harbour without steam up to get under way instantly in emergency. The design of the machinery was evolved by close co-operation between the Admiralty, the Yarrow-Admiralty Research Department of Messrs. Yarrow & Co. Ltd., Glasgow, and Associated Electrical Industries. The machinery is remotely controlled at all powers.

Electrical Notes

The ships' generator capacity is such that it will meet high demands. Fluorescent lighting is used for all living accommodation, each bunk is fitted with its own light, provision is made for such labour saving devices as vacuum cleaners and floor polishers, while supply sockets are available for officers and ratings using electric razors.

Construction Notes

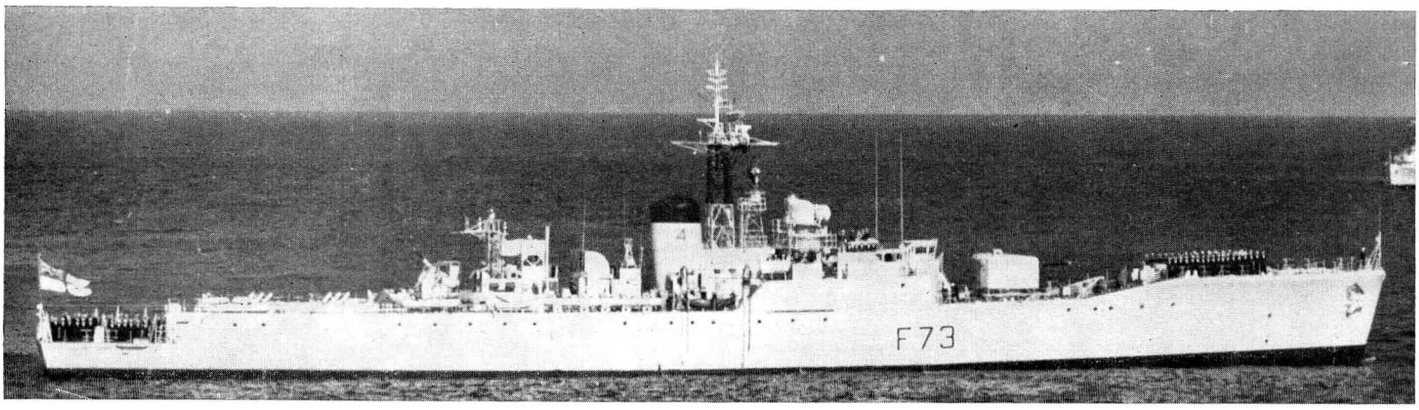
Ships of the class will be of all-welded prefabricated construction and the structural arrangements have been designed to provide a robust hull with special emphasis on the prevention of corrosion. Denny Brown stabilisers are to be fitted to reduce rolling, while good sea-keeping qualities will enable them to maintain a high speed in rough seas.

Habitability Notes

A high standard of living accommodation has been achieved and in particular all manned compartments will be air-conditioned. Bunk sleeping is provided throughout, and messing is on the cafeteria system.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 117	*Ashanti*	Yarrow & Co. Ltd., Scotstoun, Glasgow	9 Mar. 1959	Late 1960 (trials)
F 119	*Eskimo*	J. Samuel White & Co. Ltd., Cowes, I. of Wight	10 July 1960	
F 122	*Gurkha*	J. I. Thornycroft & Co. Ltd., Southampton		
F 125	*Mohawk*	Vickers-Armstrongs Ltd., Barrow		
F 131	*Nubian*	H.M. Dockyard, Portsmouth	6 Sep. 1960	
F 133	*Tartar*	H.M. Dockyard, Devonport		
F 124	*Zulu*	Alex. Stephen & Sons Ltd., Govan, Glasgow		

ANTI-SUBMARINE FRIGATES



EASTBOURNE — 1960, *A. & J. Pavia*

"Leander" Class. Improved Type 12 New Construction 1st Rate (*Anti-Submarine Versatile Type*)

LEANDER

Displacement:	Over 2,200 tons *standard* (over 2,800 tons *full load*)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch (twin turret)
Guided missiles:	2 "Seacat" anti-aircraft
Aircraft:	1 lightweight helicopter armed with homing torpedoes
Machinery:	2 sets double reduction geared turbines. 2 shafts. S.H.P.: 30,000= 30 kts.

Notes

The Civil Lord of the Admiralty announced on 7 Mar. 1960 that it had been decided to exploit the good qualities of the particularly successful "Whitby" class anti-submarine frigates in an improved and more versatile Type 12 to be known as the "Leander" class. The hull and steam turbine machinery will be substantially the same as for the "Whitbys." The main new features planned are a long-range air warning radar, the "Seacat" anti-aircraft guided missile, improved anti-submarine detection equipment and a lightweight helicopter armed with homing torpedoes. The Admiralty will also introduce air conditioning and better living conditions, it is officially stated, in this mainly anti-submarine but flexible and all-purpose type.

18 "Whitby" Class. Type 12. 1st Rate (*Anti-Submarine Quality Type*)

BERWICK
BLACKPOOL
BRIGHTON
EASTBOURNE
FALMOUTH
FOWEY
HASTINGS
LONDONDERRY
LOWESTOFT
PLYMOUTH
ROTHESAY
RHYL
SCARBOROUGH
TENBY
TORQUAY
WEYMOUTH
WHITBY
YARMOUTH

Displacement:	2,150 tons *standard* (2,560 tons *full load*)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch (twin turret), 2—40 mm. Bofors AA. (twin), see *Guided Missile Notes*
Tubes:	12—21 inch (8 single A/S, two twin)
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Machinery:	2 sets double reduction geared steam turbines. 2 shafts. S.H.P.: 30,430=over 30 kts.
Boilers:	2 Babcock & Wilcox
Complement:	189 (9 officers, 180 ratings), leaders. 152 (7 officers, 145 ratings), others

General Notes

Primarily designed for the location and destruction of the most modern type of submarines, these frigates are fitted with the latest underwater detection equipment and anti-submarine weapons of post-war development. Good sea-keeping qualities enable the vessels to maintain their high speed in rough seas. The vessels are all welded and the structural arrangements have been specially designed to achieve the lightest possible structure. Opportunity was taken in their building to gain experience in welding procedures necessary for rapid building of such vessels in emergency. The later vessels are known as "Mk. II Whitbys."

Engineering Notes

The propelling machinery includes geared turbines of novel design and high power. The employment of double reduction gearing allows low propeller revolutions to be employed at high power and the propeller efficiency is correspondingly high: this fact, coupled with improvements in hull design, enables this type of frigate to achieve over 30 knots on only 75 per cent of the power required by older destroyers of comparable displacement. The arrangement of the engine room machinery is outstandingly good.

Anti-Submarine Notes

These frigates have the latest equipment for hunting and killing submarines and facilities for directing anti-submarine aircraft. *Scarborough* was the first to be fitted with torpedo tubes (four fixed on each side, and two swivel mountings).

Operational Notes

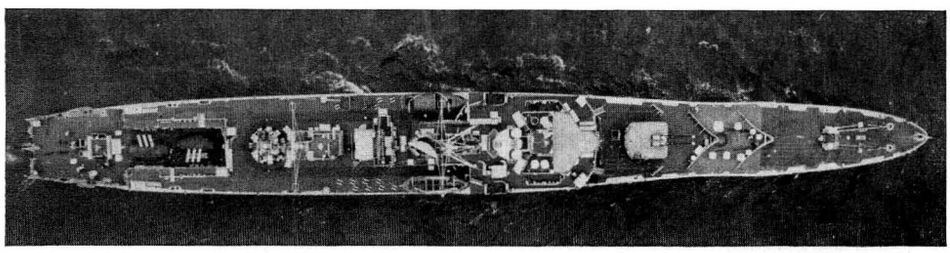
Considered to be the most useful class of small ships yet put into service with the Fleet. With their high fo'c'sle and clean lines they ride well in a sea-way and are exceptionally dry. The enclosed bridge is spacious, with splendid vision, the heated windows in the fore part of the bridge being an asset in Arctic waters. Internal communications have satisfied every demand placed upon them. The operations room is the finest ever put into a small ship.

Appearance Notes

Most ships have been fitted with a thicker, raked back funnel with a dome cap (actually there are two stacks inside the funnel) and early ships of the class, which had a vertical funnel, are being taken in hand for similar alterations as opportunities offer. Later ships of the class will be completed with the new type funnel.



BLACKPOOL — 1960, *Official*



TORQUAY (dead overhead aerial plan view) — *Added* 1960, *Official*

Improvement Notes

It is officially stated that, as far as possible, the improvements introduced in the "Leander" class will be extended, during refits, to the "Whitby" class now in service as well as to those still building. Although basically similar to the six earlier ships of the "Whitby" class, the opportunity has been taken to incorporate in *Yarmouth* modifications in the layout which extensive experience with the earlier ships has shown to be advantageous.

Electrical Notes

The electrical system is alternating current, 440 volts, three phase, 60 cycles per second.

Guided Missile Notes

Falmouth and *Lowestoft* are to be fitted with "Seacat" surface-to-air guided missiles as secondary armament in place of Bofors close range anti-aircraft guns. A single 40 mm. AA. gun, mounted in *Rhyl* and *Yarmouth* as a temporary measure, will eventually be replaced by a "Seacat" guided missile launcher and director.

Photograph Notes

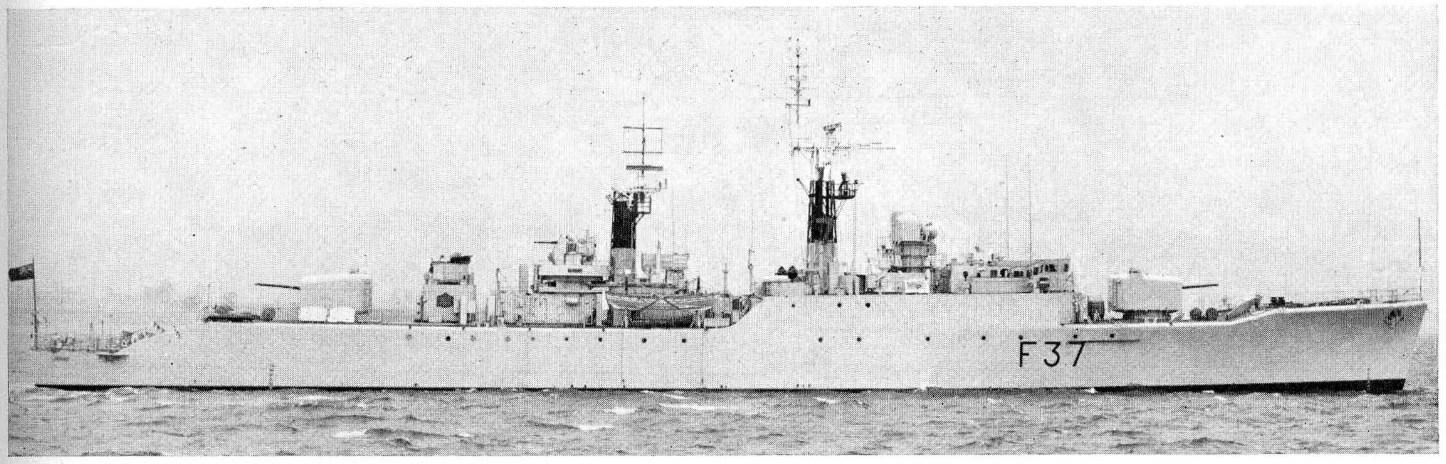
Photograph of *Whitby* in the 1957-58 edition, of *Tenby* in the 1958-59 edition, and of *Scarborough* in the 1959-60 edition.

Nomenclature Notes

All the ships of this class are named after seaside resorts and coastal towns.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 115	*Berwick*	Harland & Wolff, Ltd., Belfast	15 Dec. 1958	
F 77	*Blackpool*	Harland & Wolff, Ltd., Belfast	14 Feb. 1957	12 Aug. 1958
F 106	*Brighton*	Yarrow & Co. Ltd., Scotstoun	30 Oct. 1959	
F 73	*Eastbourne*	Vickers-Armstrongs, Ltd., Tyne (completed at Barrow)	29 Dec. 1955	9 Jan. 1958
F 113	*Falmouth*	Swan, Hunter & Wigham Richardson, Ltd., Tyne	15 Dec. 1959	
F 114	*Fowey*	Cammell Laird & Co. Ltd., Birkenhead		
F 104	*Hastings*	Yarrow & Co. Ltd., Scotstoun		
F 108	*Londonderry*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight	20 May 1958	
F 103	*Lowestoft*	Alex. Stephen & Sons Ltd., Govan, Glasgow	23 June 1960	
F 126	*Plymouth*	H.M. Dockyard, Plymouth	20 July 1959	
F 107	*Rothesay*	Yarrow & Co. Ltd., Scotstoun	9 Dec. 1957	23 Apr. 1960
F 129	*Rhyl*	H.M. Dockyard, Portsmouth	23 Apr. 1959	31 Oct 1960
F 63	*Scarborough*	Vickers-Armstrongs, Ltd., Tyne	4 Apr. 1955	10 May 1957
F 65	*Tenby*	Cammell Laird & Co. Ltd., Birkenhead	4 Oct. 1955	18 Dec. 1957
F 43	*Torquay*	Harland & Wolff, Ltd., Belfast	1 July 1954	10 May 1956
F 109	*Weymouth*	Harland & Wolff, Ltd., Belfast		
F 36	*Whitby*	Cammell Laird & Co., Ltd., Birkenhead	2 July 1954	19 July 1956
F 101	*Yarmouth*	John Brown & Co., Ltd., Clydebank	23 Mar. 1959	26 Mar. 1960

ANTI-AIRCRAFT FRIGATES



JAGUAR (starboard broadside surface view) 1960 *Official*

4 "Leopard" Class. Type 41

(Diesel Anti-Aircraft Type)

JAGUAR **LYNX**
LEOPARD **PUMA**

Displacement:	2,250 tons *standard* (2,480 to 2,520 tons *full load*) officially revised figures
Dimensions:	330 (*pp.*), 339¾ (*o.a.*) × 40 × 12 feet
Guns:	4—4·5 inch (in two twin turrets), 2—40 mm. Bofors AA. (twin), see *Gunnery Notes* and *Guided Missile Notes*
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	8 Admiralty standard range diesels in three-engine rooms. 2 shafts. B.H.P.: 12,380=25 kts., officially revised figures
Complement:	195 to 205

General Notes

These ships are designed primarily for the protection of convoys against aircraft. It is officially stated that these new anti-aircraft frigates will also serve as a medium type of destroyer in offensive operations. They are all welded, and the structural arrangements represent the last word in the development of modern technique, it is officially stated, opportunity having been taken in their building to study the problems associated with rapid production in emergency conditions. *Jaguar*, *Lynx*, and *Puma* were ordered on 28 June 1951. *Leopard* was laid down on 25 Mar. 1953 and *Jaguar* was laid down on 2 Nov. 1953. Fitted with stabilisers. The construction of another ship ordered under the 1956-57 Navy Estimates, reported to be named *Panther*, has been postponed owing to the 1957 defence economies.

Engineering Notes

The propelling machinery consists of Admiralty Standard Range 1 heavy oil engines coupled to the propeller shafting through hydraulic couplings and oil-operated reverse and reduction gear boxes. *Puma*'s engines, of the latest Admiralty design, were manufactured by H.M. Dockyard, Chatham, and Polar Engines, Ltd., Glasgow, the installation being by Scott's Shipbuilding and Engineering Co. Ltd., Engines of similar design are being used for driving the ship's electric generators, and these are being made by Peter Brotherhood & Co. Ltd., Peterborough. *Lynx*'s engines were manufactured by Crossley Brothers, Manchester, and British Polar Engines, Glasgow, the installation being by John Brown & Co. Ltd., and the ship's electric generators were made by Vickers-Armstrongs. *Leopard*'s engines were manufactured by Vickers-Armstrongs, Ltd., Barrow, and *Jaguar*'s engines by Crossley Motors Ltd., Manchester. *Jaguar* is also fitted with controllable pitch propellers, and is the only ship of her class to be so fitted.

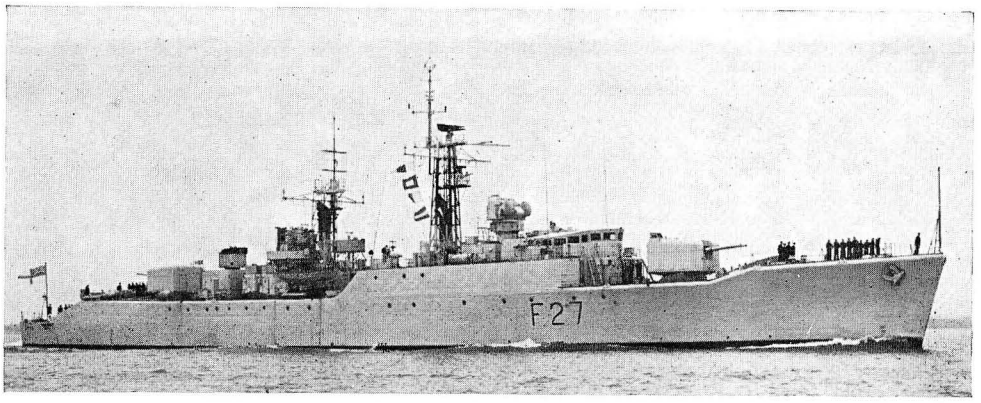
Extract from a paper: "A Review of Naval Propulsion Engineering Progress in the Last Ten Years," read by The Engineer-in-Chief of the Fleet to the N.E. Coast Institution of Engineers and Shipbuilders: *Machinery for the New Frigates*. It was while this study was proceeding that the need for new frigates of various types emerged. The accent was still on long steaming range and small ships. The anti-aircraft and aircraft-direction frigates were to be two-shaft ships with 8,000 s.h.p. on each shaft. No suitable steam design was available. The Admiralty Standard Range 1 Diesel was under development and gave promise of being a good engine of low weight—about 17 lb./s.h.p. The installation, compared with those of our war-time frigates, was a great improvement and it was decided to engine these ships, therefore, with four A.S.R. 1 Engines geared to each shaft.

Guided Missile Notes

Jaguar is eventually to be fitted with "Seacat" close range anti-aircraft guided missiles (see *Gunnery Notes*).



LEOPARD 1959, *Official*



LYNX 1957, *Wright & Logan*

Gunnery Notes

The main armament of two twin 4·5 inch gun mountings and the gunnery armament control are similar to those mounted in the "Daring" class destroyers. The secondary armament, initially consisting of two Bofors guns, will eventually be replaced by "Seacat" surface-to-air guided missiles.

Photograph Notes

A broadside view of *Lynx*, showing the features amidships in detail, appears in the 1958-59 edition, and a large starboard bow view of *Puma* appears in the 1959-60 edition.

Displacement Notes

The original design called for a standard displacement of 1,800 tons, but with improvements and additions incorporated during construction the ships turned out heavier (1,950 tons *light* displacemet).

Nomenclature Notes

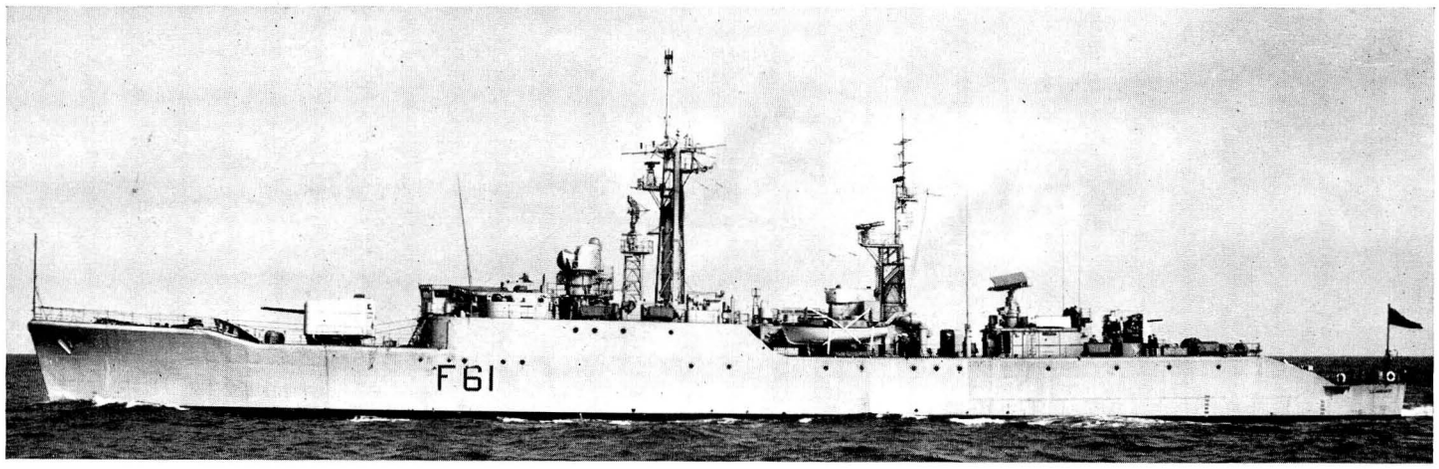
All the ships of this class are named after big cats.

Class Notes

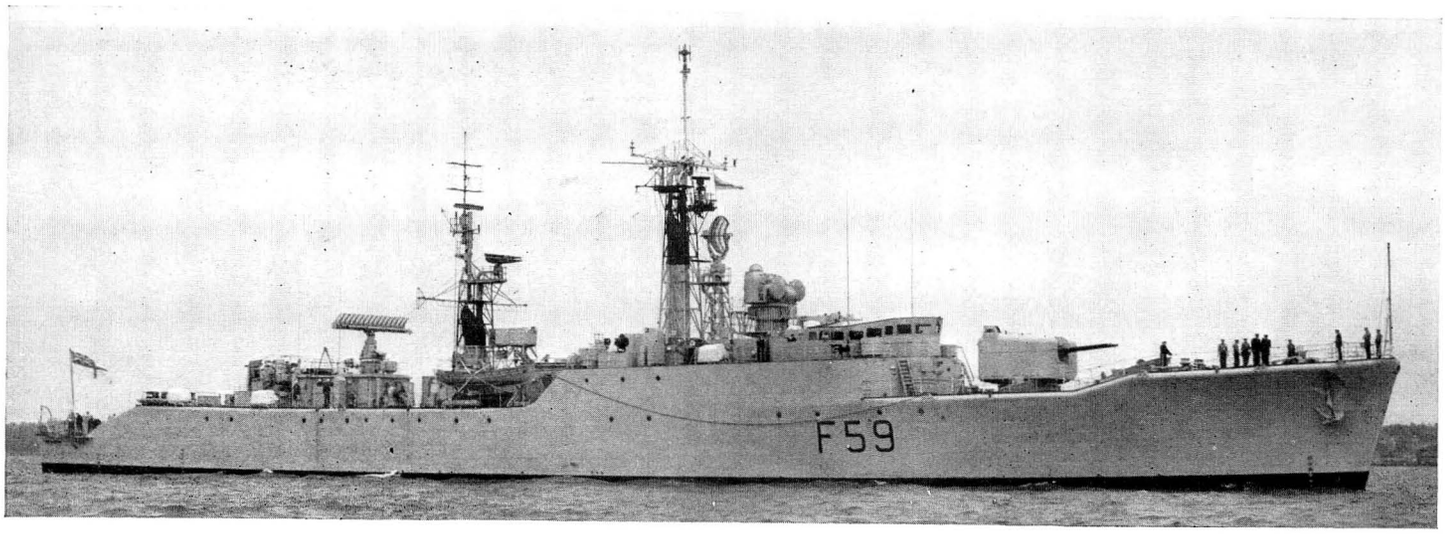
A ship of this class, originally to have been named *Panther*, built by John Brown & Co. Ltd., Clydebank, originally intended for the Royal Navy, was transferred to the Indian Navy and renamed *Brahmaputra*, see Indian section. Another *Panther* was projected to take her place, but this ship will not now be built.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 37	*Jaguar*	Wm. Denny & Bros. Ltd., Dumbarton	30 July 1957	12 Dec. 1959
F 14	*Leopard*	H.M. Dockyard, Portsmouth	23 May 1955	30 Sep. 1958
F 27	*Lynx*	John Brown & Co. Ltd., Clydebank	12 Jan. 1955	14 Mar. 1957
F 34	*Puma*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock	30 June 1954	24 Apr. 1957

AIRCRAFT DIRECTION FRIGATES



LLANDAFF (port broadside surface view) 1959, *Official*



CHICHESTER (starboard bow view) 1958, *Wright & Logan*

5 "Salisbury" Class. Type 61

(Diesel Aircraft Direction Type)

CHICHESTER LINCOLN SALISBURY
COVENTRY LLANDAFF

Displacement:	2,090 tons *standard* (2,330 tons *full load*), officially revised figures
Dimensions:	330 (*pp.*), 340 (*o.a.*) × 40 × 11½ feet
Guns:	2—4·5 inch, 2—40 mm. AA. (1—40 mm. AA. in *Lincoln*) see *Guided Missile Notes*
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	8 Admiralty standard range diesels in four engine rooms. 2 shafts. B.H.P.: 12,380=25 kts. officially revised figures. Gas turbine alternator in *Llandaff* (see *Engineering Notes*)
Complement:	207 (9 officers, 198 ratings) *Llandaff* 206 (8 officers)

General Notes

Salisbury, the prototype ship, was laid down on 23 Jan. 1952. *Chichester*, *Lincoln* and *Llandaff* were ordered on 28 June, 1951. *Lincoln* was laid down in June 1955. Construction is all welded and the design is largely prefabricated in such a manner as to allow for rapid building in emergency. These ships have highly developed electronic equipment. The construction of the fifth ship, *Exeter*, ordered under the 1956-57 Navy Estimates, was cancelled owing to the 1957 defence economies. Fitted with stabilisers (except in *Salisbury*). The frigates of this class are designed primarily for the direction of carrier-borne and shore based aircraft. They will also serve as a lighter type of destroyer in offensive operations.

Displacement Notes

The originally designed standard displacement was 1,738 tons, but with alterations and additions during construction the ships in fact turned out heavier.

Radar Notes

Chichester carries a new type of radar display on the foremast and mainmast. The radar on the foremast consists of a "spoked" aerial of the "cartwheel" type (without rim).

Nomenclature Notes

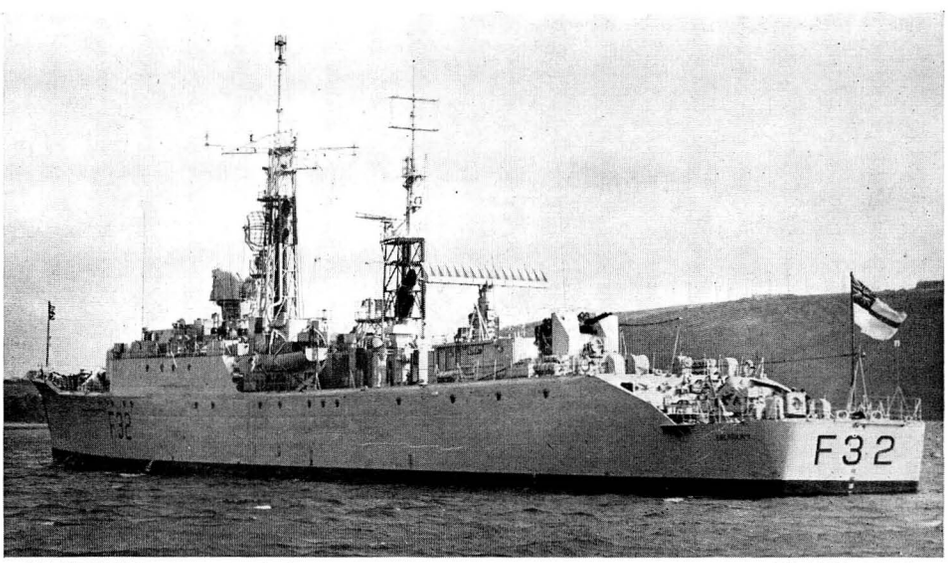
All ships of this class are named after cathedral cities. The sixth ship, *Coventry*, was to have been *Panther*. A seventh ship was to have been named *Gloucester*.

Photograph Notes

Starboard quarter and bow views of *Salisbury* in the 1957-58 (Diamond Jubilee) edition. Starboard quarter and port bow views of *Llandaff* in the 1958-59 edition (in Addenda).

Guided Missile Notes

A single 40 mm. AA. gun, mounted in *Lincoln* as a temporary measure, will eventually be replaced by a "Seacat" guided missile launcher and director.



SALISBURY (port quarter view) *Added 1959, Official*

Engineering Notes

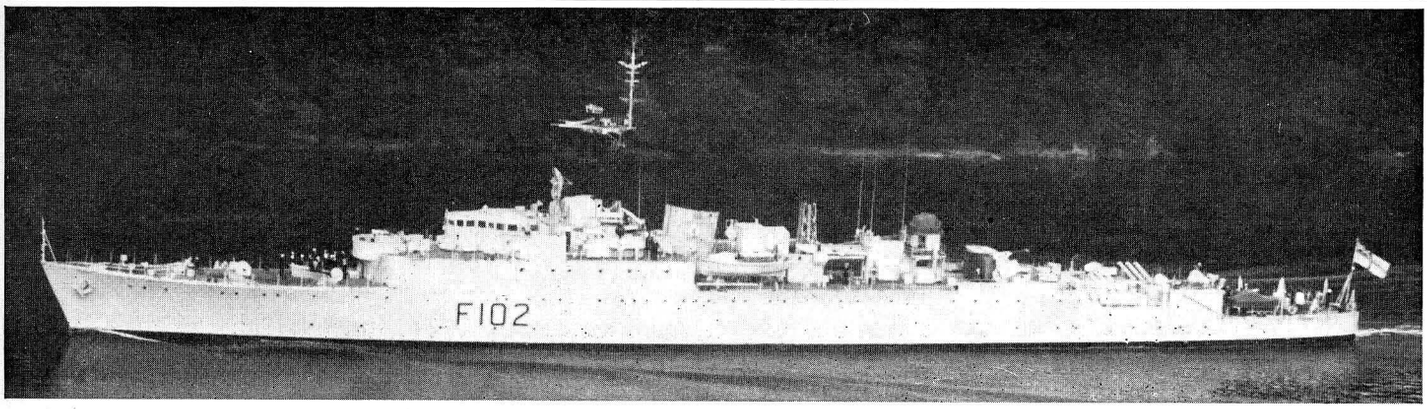
It is officially stated that H.M.S. *Salisbury* has twin screws and is powered by Admiralty Standard Range 1, heavy oil engines coupled to propelling shafts through hydraulic couplings and oil operated reverse and reduction gear boxes. These engines, of the latest Admiralty design, were manufactured by Messrs. Vickers-Armstrongs, Barrow, who also made the engines of similar design for driving the ship's electric generators. The hull was built and machinery and other fittings installed by Devonport Dockyard.

It was officially stated in 1958 that H.M.S. *Llandaff* has similar main engines manufactured by Messrs. British Polar, of Glasgow. Engines of similar design for driving the ship's electric generators were manufactured by Messrs. Vickers-Armstrongs, Barrow-in-Furness. The *Llandaff* is the only Type 61 frigate to have a 500 kw. gas-turbine alternator and three diesel generators. Other ships of the class, and also Type 41 frigates, have four diesel generators. This new gas-turbine alternator was manufactured by Messrs. W. H. Allen & Sons, of Bedford.

The *Lincoln* is fitted with controllable pitch propellers, which are 12 feet in diameter, manufactured by Messrs. Stone Marine & Engineering Co. Ltd.

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
F 59	*Chichester*	Fairfield S.B. & Eng. Co. Ltd., Govan, Glasgow	21 Apr. 1955	16 May 1958
F 127	*Coventry*	Vickers-Armstrongs (Shipbuilders) Ltd., Tyne		
F 99	*Lincoln*	Fairfield S.B. & Eng. Co. Ltd., Govan, Glasgow	6 Apr. 1959	12 July 1960
F 61	*Llandaff*	Hawthorn Leslie (Shipbuilders) Ltd., Hebburn-on-Tyne	30 Nov. 1955	11 Apr 1958
F 32	*Salisbury*	H.M. Dockyard, Devonport	25 June 1953	27 Feb. 1957

FAST ANTI-SUBMARINE FRIGATES (ex-Destroyers)



ZEST

1959, *courtesy Godfrey H. Walker, Esq.*

1 "Z" Class. 1st Rate
(*Fully Converted from Destroyer*)

ZEST

Pennant No.: F 102
Builders: John I. Thornycroft & Co., Ltd., Woolston
Laid down: 21 July 1942
Launched: 14 Oct. 1943
Completed: 20 July 1944

Displacement: 2,300 tons *standard* (2,880 tons *full load*)
Dimensions: 339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 16 (*max.*) feet
Guns: 2—4 inch, 2—40 mm. Bofors AA.
A/S weapons: 2 Limbo three-barrelled depth charge mortars. Provision for tubes
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts.(designed), 31·25 kts. sea speed
Boilers: 2 Admiralty 3-drum type
Oil fuel: 600 tons
Radius: 3,000 miles at 20 kts.
Complement: 195 (15 officers, 180 ratings)

Notes

Former fleet destroyer. Fully converted into fast anti-submarine frigate at H.M. Dockyard, Chatam Feb. 1954-Mar. 1956. Has compass platform like *Hardy* and twin 40 mm. Bofors AA. mounting on break of bridge superstructure.

3 "W" Class. 1st Rate
(*Fully Converted from Destroyers*)

WAKEFUL (ex-*Zebra*) **WHIRLWIND** **WIZARD**

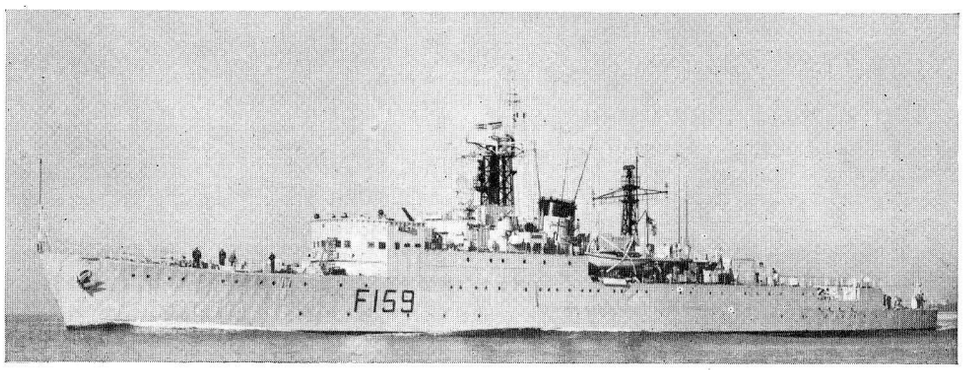
Displacement: 2,100 tons *standard* (2,700 tons *full load*)
Dimensions: 339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 16 (*max.*) feet
Guns: 2—4 inch, 2—40 mm. Bofors AA.
A/S weapons: 2 squid triple-barrelled depth charge mortars. Provision for tubes.
Machinery: Parsons ge.red turbines. 2 shafts. S.H.P.: 40,000 = 36·75 kts. (designed), 31·25 kts. sea speed
Boilers: 2 Admiralty 3-drum type
Oil fuel: 580 tons
Radius: 2,800 miles at 20 kts.
Complement: 175

General Notes

Wakeful (converted by Scotts') and *Whirlwind* were fully converted from destroyers in 1952-1953, *Wizard* (converted by H.M. Dockyard, Devonport) in 1954. Their fully converted sister ship *Wrangler* was transferred to the South African Navy on 29 Nov. 1956, and renamed *Vrystaat*. *Wakeful* was refitted with higher open bridge in 1959 for Portsmouth Squadron duties (vice *Starling*), and her 4 inch gun mounting was removed and replaced by a deckhouse. *Wizard* was fitted with the new type of open bridge in 1960 for employment in the Dartmouth Training Squadron.

Photograph Notes

A photograph (aerial view) of *Whirlwind* appears in the 1957-58 to 1959-60 editions.



WAKEFUL (after refit)

1960, *Wright & Logan*

Class Notes

Of the original flotilla of eight "W" class destroyers two, the *Wessex* and *Whelp*, were transferred to the South African Navy in 1950-52 and renamed *Jan van Riebeeck* and *Simon van der Stel*, respectively, and two, the *Kempenfelt* and *Wager*, were sold to Yugoslavia in 1957.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 159	*Wakeful*	Fairfield S.B. & Eng. Co. Ltd., Govan	3 June 1942	30 June 1943	17 Feb. 1944
F 187	*Whirlwind*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn	31 July 1942	30 Aug. 1943	20 July 1944
F 72	*Wizard*	Vickers-Armstrongs, Ltd., Barrow	14 Sep. 1942	29 Sep. 1943	30 Mar. 1944

5 "V" Class. 1st Rate.
(*Fully Converted from Destroyers*)

VENUS **VIGILANT** **VOLAGE**
VERULAM **VIRAGO**

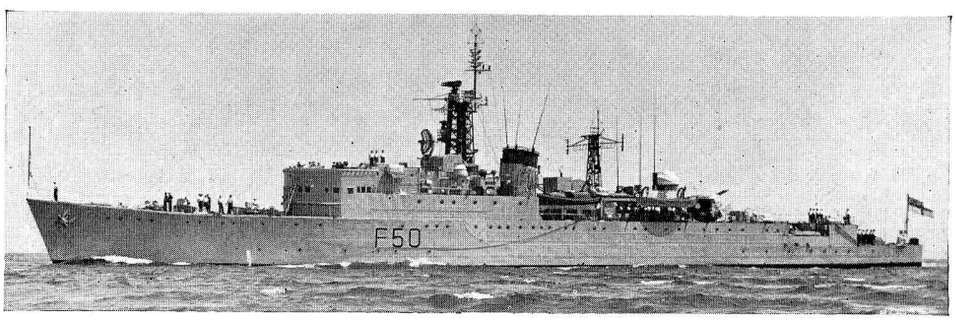
Displacement: 2,100 tons *standard* (2,700 tons *full load*)
Dimensions: 339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 16 (*max.*) feet
Guns: 2—4 inch, 2—40 mm. Bofors AA. (see notes)
A/S weapons: 2 squid triple-barrelled depth charge mortars. Provision for tubes
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000 = 36·75 kts. (designed), 31·25 kts. sea speed
Boilers: 2 Admiralty 3-drum type
Oil fuel: 580 tons
Radius: 2,800 miles at 20 kts.
Complement: 174

General Notes

Verulam was converted by H.M. Dockyard, Portsmouth, *Vigilant* by J. I. Thornycroft & Co. Ltd., Woolston, Southampton, *Volage* by J. Samuel White & Co. Ltd., Cowes, 1952. In *Venus* and *Vigilant* an open and enlarged bridge was built in 1955 with a large deck house abaft it in place of the twin 40 mm. Bofors AA. guns, for use in the Dartmouth Training Squadron. *Verulam* has been fitted with a bridge like *Leopard*.

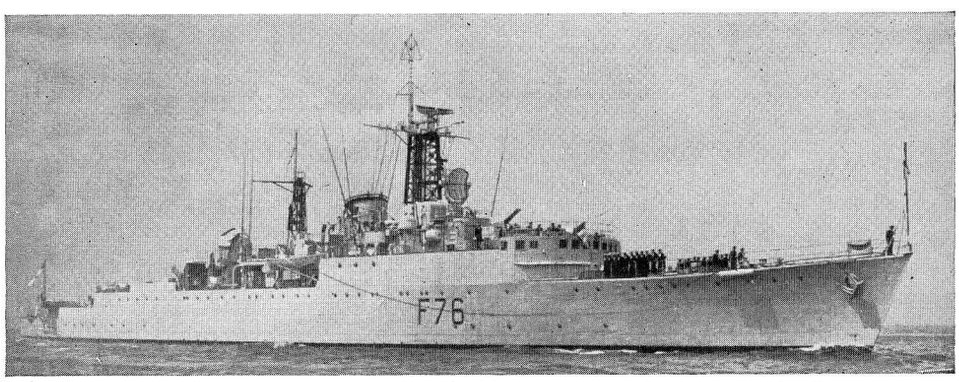
Pennant No.	*Name*	*Builders*
F 50	*Venus*	Fairfield S.B. & Eng. Co. Ltd., Govan
F 29	*Verulam*	Fairfield S.B. & Eng. Co. Ltd., Govan
F 93	*Vigilant*	Swan, Hunter & Wigham Richardson Ltd.
F 41	*Volage*	J. Samuel White & Co. Ltd., Cowes
F 96	*Virago*	Swan, Hunter & Wigham Richardson Ltd.

Names	*Laid down*	*Launched*	*Completed*
Venus	12 Jan. 1942	23 Feb 1943	28 Aug. 1943
Verulam	26 Jan. 1942	22 Apr. 1943	10 Dec. 1943
Vigilant	31 Jan. 1942	22 Dec. 1942	10 Sep. 1943
Volage	31 Dec. 1942	15 Dec. 1943	26 May 1944
Virago	16 Feb. 1942	4 Feb. 1943	5 Nov. 1943



VENUS (open and enlarged bridge)

1960, *Wright & Logan*



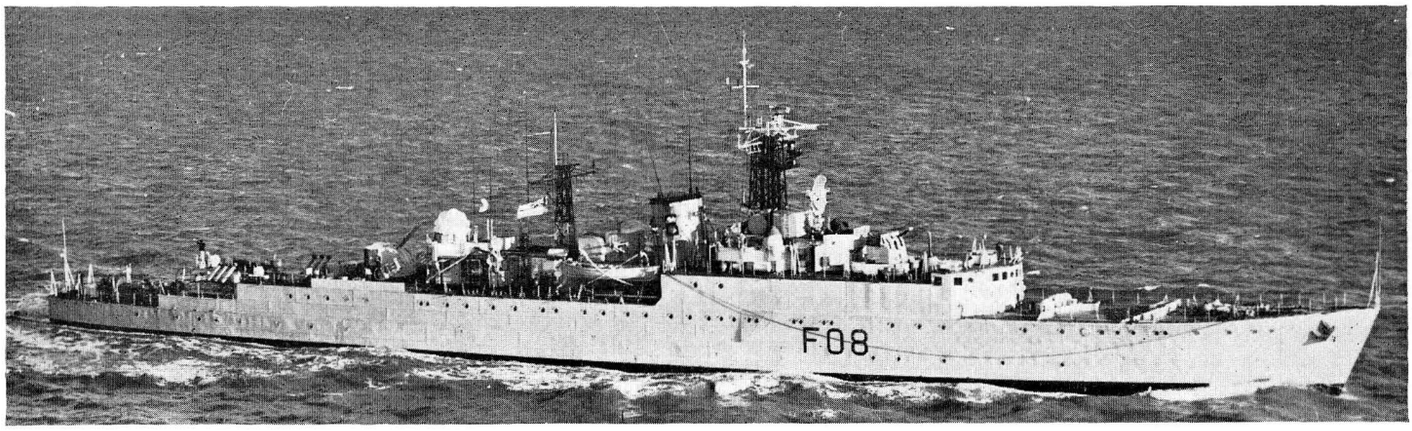
VIRAGO

1954, *Wright & Logan*

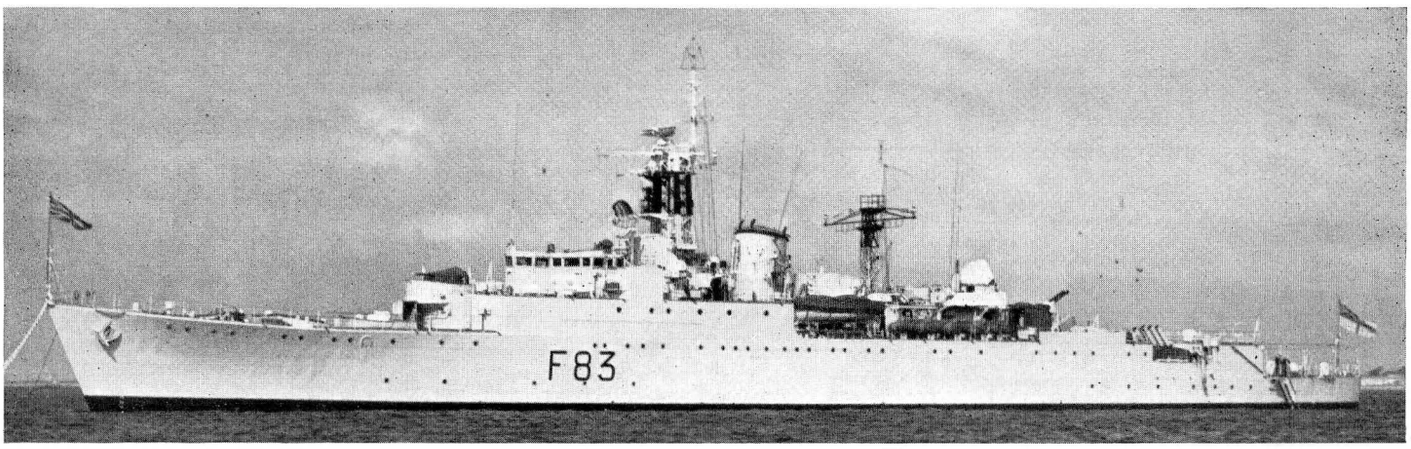
Class Notes

Of the original flotilla of eight "V" class destroyers, the *Valentine* and *Vixen* were transferred to the Royal Canadian Navy early in 1944 (renamed *Algonquin* and *Sioux*) and the flotilla leader *Hardy* was lost in the Second World War.

Fast Anti-Submarine Frigates (ex-Destroyers)—*continued*



URANIA — *Added* 1959, *Skyfotos*



ULSTER (gun on break, bridge like *Leopard*) — *Added* 1959, *Wright & Logan*

8 "U" Class. 1st Rate

(Fully Converted from Destroyers)

GRENVILLE (Leader) **UNDINE**
ULSTER **URANIA**
ULYSSES **URCHIN**
UNDAUNTED **URSA**

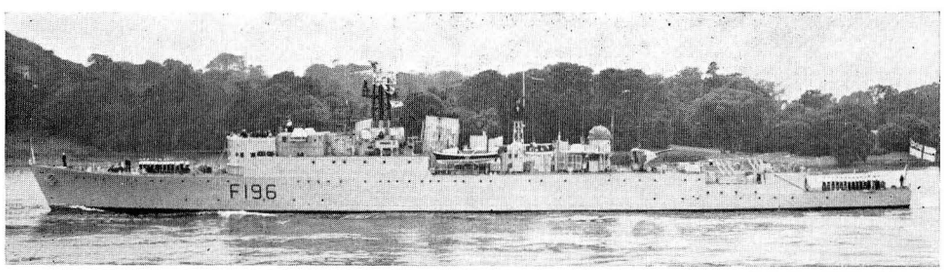
Displacement:	2,200 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅜ × 16 (*max.*) feet
Guns:	2—4 inch (twin mount), 2—40 mm. Bofors AA.
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Tubes:	Provision for tubes. 8 Homing torpedo tubes fitted in *Ulster*, 4 on each side. 3 tubes on starboard side in *Undaunted*
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts.(designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	570 to 600 tons
Radius:	2,800 to 3,000 miles at 20 kts.
Complement:	175 to 195

Notes

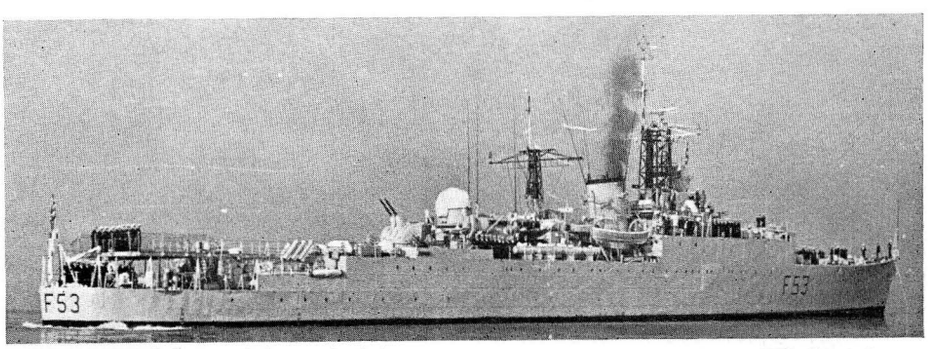
Four converted 1952-53, *Ulster* at H.M. Dockyard Chatham, *Ulysses* at H.M. Dockyard, Devonport, *Urchin* by Barclay Curle, *Undaunted* by J. Samuel White & Co. Ltd., Cowes. *Urania* (by Harland & Wolff, Liverpool), and *Ursa* (by Palmers, Hebburn) converted 1953-54. *Undine* commissioned 2 Nov. 1954, *Urania* 4 Jan. 1955. *Ulster*, like *Zest* (see previous page) is fitted with bowl-shaped sponson at the break of the bridge superstructure and has bridge similar to that in "Leopard" Class. *Grenville* and *Undaunted* are fitted with helicopter platform aft. *Urchin* now has a bridge like *Vigilant*.

Pennant No.	*Name*	*Builders*
F 197	*Grenville*	Swan, Hunter & Wigham Richardson Ltd
F 83	*Ulster*	Swan, Hunter & Wigham Richardson Ltd.
F 17	*Ulysses*	Cammell Laird & Co. Ltd., Birkenhead
F 53	*Undaunted*	Cammell Laird & Co. Ltd., Birkenhead
F 141	*Undine*	John I. Thornycroft & Co. Ltd., Woolston
F 08	*Urania*	Vickers-Armstrongs Ltd., Barrow
F 196	*Urchin*	Vickers-Armstrongs Ltd., Barrow
F 200	*Ursa*	John I. Thornycroft & Co. Ltd., Woolston

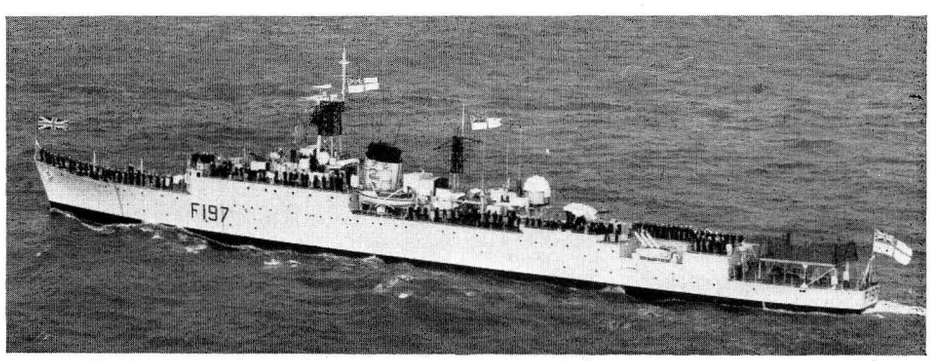
Name	*Laid down*	*Launched*	*Completed*
Grenville	1 Nov. 1941	12 Oct. 1942	27 May 1943
Ulster	12 Nov. 1941	9 Nov. 1942	30 June 1943
Ulysses	14 Mar. 1942	22 Apr. 1943	23 Dec. 1943
Undaunted	8 Sep. 1942	19 July 1943	3 Mar. 1944
Undine	18 Mar. 1943	1 June 1943	23 Dec. 1943
Urania	18 June 1942	19 May 1943	18 Jan. 1944
Urchin	26 Mar. 1942	8 Mar. 1943	24 Sep. 1943
Ursa	2 May 1942	22 July 1943	1 Mar. 1944



URCHIN (enlarged open bridge) — 1960, *Tom Molland Ltd.*

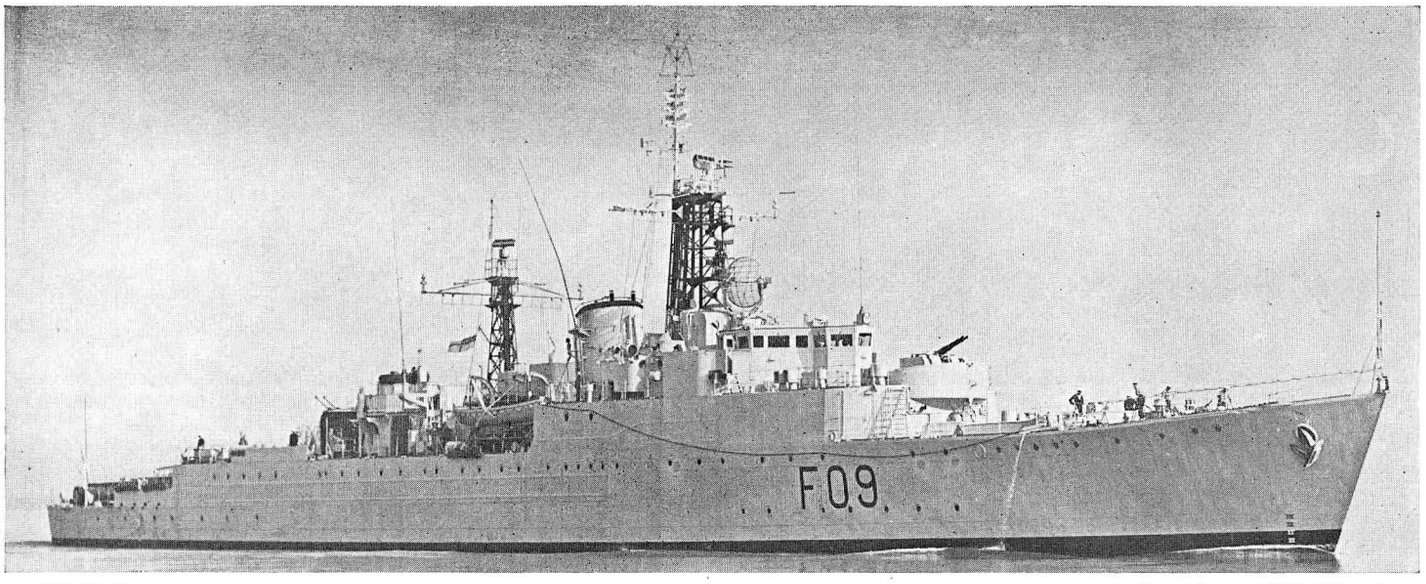


UNDAUNTED (helicopter platform, and tubes) — 1959, *Giorgio Arra*



GRENVILLE (helicopter platform aft) — 1958, *Skyfotos*

Fast Anti-Submarine Frigates (ex Destroyers)—*continued*



TROUBRIDGE

courtesy Messrs. J. Samuel White & Co. Ltd.

1 "T" Class. 1st Rate

(Fully Converted from Destroyer)

TROUBRIDGE (Leader)

Pennant No.:	F 09
Builders:	John Brown & Co. (Shipbuilders) Ltd., Clydebank
Laid down:	10 Nov. 1941
Launched:	23 Sep. 1942
Completed:	8 Mar. 1943
Displacement:	2,300 tons *standard* (2,880 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 10 (*mean*), 16 (*max.*) feet
Guns:	2—4 inch, 2—40 mm. Bofors AA.
A/S weapons:	2 Limbo three-barrelled depth bomb mortars, Mk. 10
Tubes:	Provision for 8—21 inch tubes (four fixed each side)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type water tube at a pressure of 300 lb. per sq. in. superheated to 640°F.
Oil fuel:	600 tons
Radius:	3,000 miles at 20 kts.
Complement:	190 (10 officers, 180 ratings). Accommodation for 14 officers and 214 ratings

General Notes

This ship is different from early Type 15's (full conversion). Conversion started by H.M Dockyard, Portsmouth in 1955, and completed by J. Samuel White & Co. Ltd., Cowes, on 29 July 1957. Has a bridge like that in the new anti-aircraft frigate *Leopard*.

Class Notes

Teazer, *Tenacious*, *Termagant*, *Terpsichore*, *Tumult*, *Tuscan* and *Tyrian*, originally of this class, were converted to fast anti-submarine frigates (limited conversion), see earlier page.

4 "R" Class. 1st Rate

(Fully Converted from Destroyers)

RAPID **ROCKET**
RELENTLESS **ROEBUCK**

Displacement:	2,030 tons *standard* (2,700 tons *full load*)
Dimensions:	358½ (*o.a.*) × 35⅔ × 16 (*max.*) feet
Guns:	2—4 inch (twin mount), 2—40 mm. Bofors AA.
A S weapons	*Relentless* and *Rocket:* 2 Limbo three-barrelled depth charge mortars. Provision for tubes. *Rapid* and *Roebuck :* 2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	174 to 180

General Notes

Relentless and *Rocket*, former fleet destroyers, were converted to prototype fast frigates in 1949-51. Bridges, funnel, masts, superstructure, 4—4·7 inch guns in single mountings, 4—2 pdr. pompoms, 8—20 mm. AA. guns and 8—21 inch tubes in quadruple mountings, were removed entirely and ships stripped down to the bare hull. Forecastle deck was then extended aft, extensive use being made of aluminium to reduce top weight. New superstructure was built up, two short lattice masts stepped, short raked funnel erected, and two anti-submarine mortars, arranged *en echelon*, mounted in after shelter deck. They have a completely new armament, and represent the new conception of a frigate submarine-killer. Conversion of *Relentless* at H.M. Dockyard, Portsmouth, and *Rocket* at H.M. Dockyard, Devonport, was completed in July, 1951. *Rapid* and *Roebuck* were similarly converted in 1952-53 by Alex. Stephen & Sons, Lsd., Govan, Glasgow, and H.M. Dockyard, Devonport, respectively.

Appearance Notes

When first converted *Rocket* had a pronounced rubbing strake forward, but this has been removed. *Relentless* fitted with torpedo tubes for experimental purposes, was refitted 1955-56. *Roebuck*, now in the Dartmouth Training Squadron has a modified bridge as in *Venus* and *Vigilant*.

Class Notes

Of four sister ships *Racehorse* was scrapped (as destroyer) in 1950, and *Raider*, *Redoubt* and *Rotherham* (Leader) were transferred to the Indian Navy (as destroyers) in 1949 and renamed *Rana*, *Ranjit* and *Rajput*, respectively.

Photograph Notes

Starboard bow view of *Roebuck* with enclosed bridge in the 1957-58 edition. Photograph of *Rocket* with rubbing strake forward in the 1957-58 edition.



ROCKET

1959, *Wright & Logan*

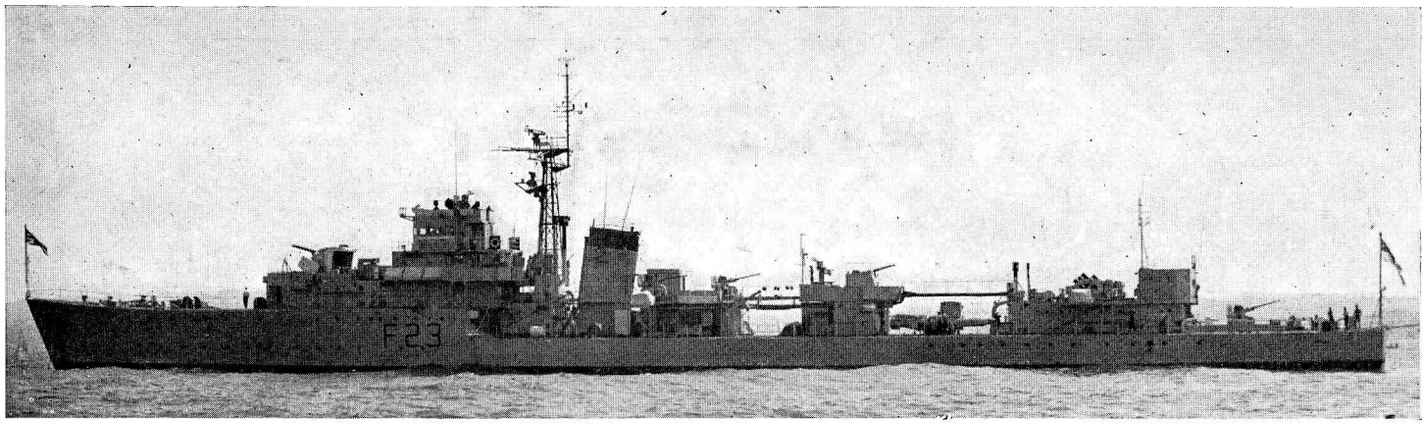


ROEBUCK (enlarged open bridge)

1958, *A. & J. Pavis*

Pennant No.	*Name*	*Original Builders*	*Laid down*	*Launched*	*Completed*
F 138	*Rapid*	Cammell Laird & Co. Ltd., Birkenhead	16 June 1941	16 July 1942	20 Feb. 1943
F 185	*Relentless*	John Brown & Co. Ltd., Clydebank	20 June 1941	15 July 1942	30 Nov. 1942
F 193	*Rocket*	Scotts S.B. & Eng. Co. Ltd., Greenock	14 Mar. 1941	28 Oct. 1942	4 Aug. 1943
F 195	*Roebuck*	Scotts S.B. & Eng. Co. Ltd., Greenock	19 June 1941	10 Dec. 1942	10 June 1943

Fast Anti-Submarine Frigates (ex-Destroyers)—*continued*



TEAZER (higher bridge) 1960, *courtesy Godfrey H. Walker, Esq.*

7 "T" Class. 1st Rate

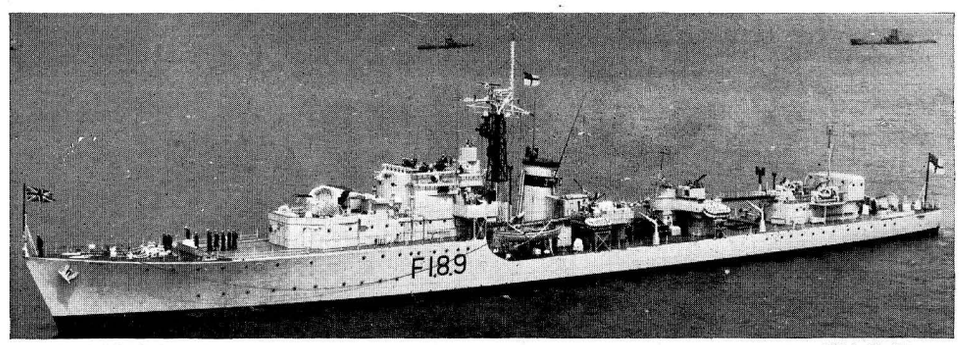
(Limited Conversion from Destroyers)

TEAZER **TUMULT**
TENACIOUS **TUSCAN**
TERMAGANT **TYRIAN**
TERPSICHORE

Displacement:	2,000 tons *standard* (2,530 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 16 (*max.*) feet
Guns:	2—4 inch (twin mount), 7—40 mm. Bofors AA. (twin and singles)
Tubes:	4—21 inch (quadruple mount) removed temporarily from *Termagant*
A/S weapons:	2 squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. S.H.P.: 40,000=36·75 kts. (designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	175

General Notes

A simpler form of conversion from fleet destroyers which gave fast ships with good A/S qualities more rapidly than a full conversion of the "Rocket" type. *Tenacious*, conversion of which was completed in 1952, by H.M. Dockyard, Rosyth, was the first of these. *Teazer* and *Tuscan* were converted by Mountstuart, *Termagant* and *Tamult* by Grayson Rollo, *Terpsichore* by John J. Thornycroft & Co., Ltd., Woolston, Southampton, and *Tyrarn* by Harland & Wolff, Liverpool and Gordon Klison, Birkenhead.



TERMAGANT 1954, *Skyfotos*

Appearance Notes

Teazer, *Termagant*, *Terpsichore* and *Tumult* have new bridge structure lighter, higher and more square than the destroyer type of bridge in previous fast frigates of limited conversion.

Class Notes

Former leader of this class, *Troubridge*, was fully converted (see earlier page).

Photograph Notes

Photograph of *Tumult* in the 1955-56 to 1957-58 editions.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 23	*Teazer*	Cammell Laird & Co. Ltd., Birkenhead	20 Oct. 1941	7 Jan. 1943	13 Sep. 1943
F 44	*Tenacious*	Cammell Laird & Co. Ltd., Birkenhead	3 Dec. 1941	24 Mar. 1943	30 Oct. 1943
F 189	*Termagant*	Wm. Denny & Bros. Ltd., Dumbarton	25 Nov. 1941	22 Mar. 1943	18 Oct. 1943
F 19	*Terpsichore*	Wm. Denny & Bros. Ltd., Dumbarton	25 Nov. 1941	17 June 1943	20 Jan. 1944
F 121	*Tumult*	John Brown & Co. Ltd., Clydebank	16 Nov. 1941	9 Nov. 1942	2 Apr. 1943
F 156	*Tuscan*	Swan, Hunter & Wigham Richardson, Ltd.	6 Sep. 1941	28 May 1942	11 Mar. 1943
F 67	*Tyrian*	Swan, Hunter & Wigham Richardson, Ltd.	15 Oct. 1941	27 July 1942	8 Apr. 1943

2 "P" Class. 1st Rate

(Limited Conversion from Destroyers)

PALADIN **PETARD** (ex-*Persistent*)

	Paladin	*Petard*
Name:		
Pennant No.:	F 169	F 26
Builders:	John Brown & Co. (Shipbuilders) Ltd., Clydebank	Vickers-Armstrongs Ltd., Tyne
Laid down:	22 July 1940	26 Dec. 1939
Launched:	11 June 1941	27 Mar. 1941
Completed:	12 Dec. 1941	14 June 1942

Displacement:	1,800 and 1,825 tons *standard* (2,300 and 2,400 tons *full load*), respectively. Revised figures
Dimensions:	338½ (*pp.*), 345 (*o.a.*) × 35 × 15⅔ (*max.*) feet
Guns:	2—4 inch, 5 (*Paladin* 2)—40 mm. Bofors AA.
Tubes:	4—21 inch (see *Notes*)
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	430 tons
Radius:	1,700 miles at 20 kts.
Complement:	170



PALADIN 1958, *Skyfotos*

General Notes

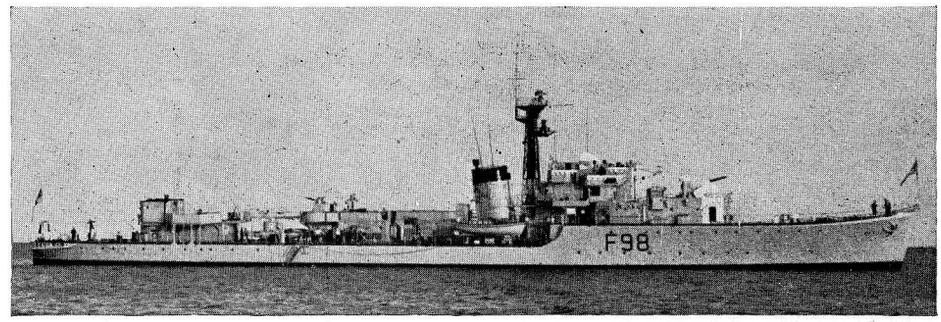
Formerly destroyers. Machinery of *Petard* by Vickers-Armstrongs (Barrow). Converted into fast anti-submarine frigates in 1953-56. *Petard* by Harland & Wolff Ltd., Belfast and *Paladin* by H.M. Dockyard, Rosyth the last of the Type 16 Limited Conversions. *Paladin* was converted for minelaying in Sep. 1957 with a capacity of 30 mines, and her torpedo tubes landed.

1 "O" Class. 1st Rate

(Limited Conversion from Destroyer)

ORWELL

Pennant No.:	F 98
Builders:	John J. Thornycroft & Co. Ltd., Woolston
Laid down:	20 May 1940
Launched:	2 Apr. 1942
Completed:	17 Oct. 1942
Displacement:	1,800 tons *standard* (2,300 tons *full load*). Revised figures
Dimensions:	338½ (*pp.*), 345 (*o.a.*) × 35 × 15⅔ (*max.*) feet
Guns:	2—4 inch, 2—40 mm. Bofors AA.
Tubes:	4—21 inch
A/S weapons	2 squid triple-barrelled depth charge mortars
Machinery	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	430 tons
Radius:	1,700 miles at 20 kts.
Complement:	170



ORWELL 1959, *courtesy Godfrey H. Walker, Esq.*

Notes

Originally one of the first "Emergency" destroyers built under the War Programme. Converted into a fast anti-submarine frigate by H.M. Dockyard, Rosyth in 1952. Fitted for minelaying (rails are visible in photo). Formerly sister ship of *Obedient*, see earlier page.

Anti-Submarine Frigates—*continued*

12 " Blackwood " Class. Type 14.

2nd Rate (*Anti-Submarine Utility Type*)

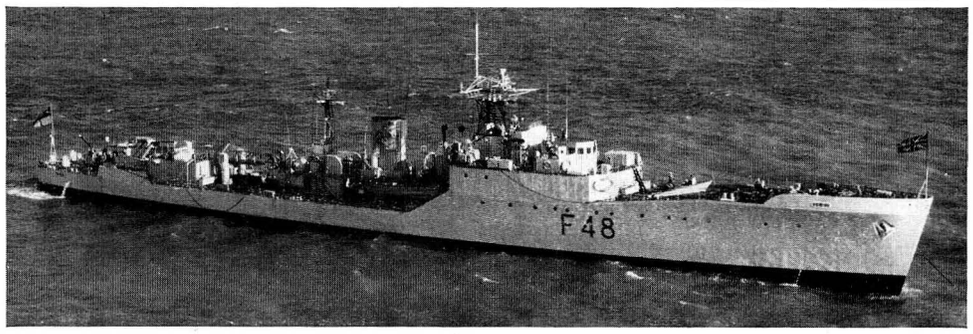
BLACKWOOD **GRAFTON** **MURRAY**
DUNCAN (Leader) **HARDY** **PALLISER**
DUNDAS **KEPPEL** **PELLEW**
EXMOUTH **MALCOLM** **RUSSELL**

Displacement:	1,020 tons *standard* (1,536 tons *full load*) officially revised figures
Dimensions:	300 (*pp.*), 310 (*o.a.*) × 33 × 10 feet
Guns:	3—40 mm. Bofors AA. Mk. 9
Tubes:	4—21 inch (two twin). See *Torpedo Notes*
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Machinery:	1 set geared steam turbines. 1 shaft. S.H.P.: 15,000=27·8 kts. (24·5 kts. *max.* continuous sea speed) officially revised figures
Boilers:	2 Babcock & Wilcox
Complement:	111 (7 officers, 104 ratings)

General Notes
These ships, of a novel, very lightly armed type, as far as guns are concerned, were designed for a mainly anti-submarine role. They are of comparatively simple construction. All were built in prefabricated sections. In 1958-59 their hulls were strengthened to enable them to stand up to the severe and prolonged sea and weather conditions experienced while engaged on fishery protection patrol duties in Icelandic waters.

Name	*Builders*
Blackwood	John I. Thornycroft & Co. Ltd., Southampton
Duncan	John I. Thornycroft & Co. Ltd., Southampton
Dundas	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
Exmouth	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
Grafton	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
Hardy	Yarrow & Co. Ltd., Scotstoun, Glasgow
Keppel	Yarrow & Co. Ltd., Scotstoun, Glasgow
Malcolm	Yarrow & Co. Ltd., Scotstoun, Glasgow
Murray	Alex. Stephen & Sons Ltd., Govan, Glasgow
Palliser	Alex. Stephen & Sons Ltd., Govan, Glasgow
Pellew	Swan, Hunter & Wigham Richardson Ltd., Wallsend
Russell	Swan, Hunter & Wigham Richardson Ltd., Wallsend

Pennant No.	*Name*	*Launched*	*Completed*
F 78	*Blackwood*	4 Oct. 1955	22 Aug. 1957
F 80	*Duncan*	30 May 1957	21 Oct. 1958
F 48	*Dundas*	25 Sep. 1953	16 Mar. 1956
F 84	*Exmouth*	16 Nov. 1955	20 Dec. 1957
F 51	*Grafton*	13 Sep. 1954	8 Jan. 1957
F 54	*Hardy*	25 Nov. 1953	15 Dec. 1955
F 85	*Keppel*	31 Aug. 1954	6 July 1956
F 88	*Malcolm*	18 Oct. 1955	12 Dec. 1957
F 91	*Murray*	22 Feb. 1955	5 June 1956
F 94	*Palliser*	10 May 1956	13 Dec. 1957
F 62	*Pellew*	29 Sep. 1954	26 July 1956
F 97	*Russell*	10 Dec. 1954	7 Feb. 1957



DUNDAS (starboard bow view, showing bridge layout) 1960, *Skyfotos*



PELLEW (port quarter view, showing Limbos) 1958, *Skyfotos*

Anti-Submarine Notes
The two Limbos can each fire a pattern of large depth bombs with great accuracy, and the projectiles can be set to explode at a predetermined depth. These weapons can be trained over a wider arc than previous types of anti-submarine mortars, and have a much greater and more accurate range.

Squadron Notes
Of this class the *Duncan* (on completion as Squadron Leader at the end of 1958), *Malcolm* (in 1959), *Palliser* (April 1958) and *Russell* (mid-January 1958) formed the Royal Navy's Fishery Protection Squadron (with four coastal minesweepers).

Nomenclature Notes
All the ships of this class are named after famous Captains of British naval history

Engineering Notes
All engined by their builders, except *Pellow* and *Russell*, by Wallsend Slipway & Eng. Co. Ltd., and *Grafton* and *Malcolm* by The Parsons Marine Steam Turbine Co. Ltd., Wallsend-on-Tyne. It is officially stated that the turbines are of advanced design. The propelling machinery of *Hardy* and *Keppel* includes turbines of English Electric Co. design.

Torpedo Notes
Blackwood, *Exmouth*, *Malcolm* and *Palliser* mount the torpedo tubes.

Photograph Notes
Photographs of *Dundas*, *Hardy* and *Keppel* in the 1956-57 and 1957-58 editions, and of *Blackwood* in the 1958-59 edition, larger aerial views of *Grafton* and *Pellew* and surface views of *Duncan* and *Palliser* in the 1959-60 edition.

FRIGATES

5 " Bay " Class. 2nd Rate
(*Anti-Aircraft Type*)

CARDIGAN BAY (ex-*Loch Laxford*)
MORECAMBE BAY (ex-*Loch Heilen*)*
MOUNTS BAY (ex-*Loch Kilbirnie*)*
PORLOCK BAY (ex-*Loch Seaforth*, ex-*Loch Muick*)
ST. BRIDE'S BAY (ex-*Loch Achillty*)

Displacement:	1,580 tons *standard* (2,420 tons *full load*)
Dimensions:	286 (*pp.*), 307½ (*o.a.*) × 38½ × 12¾ feet (15½ feet *max.*)
Guns:	4—4 inch, 6 or 8—40 mm. AA., (small armament varies from ship to ship)
A/S weapons:	1 Hedgehog (to be replaced by Squid). 4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P. 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	724 tons
Radius:	9,500 miles at 12 kts.
Complement:	157

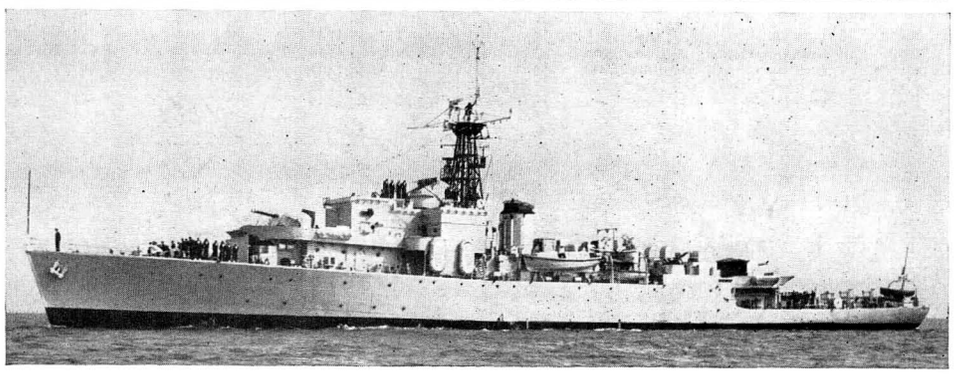
General Notes
Designed primarily for anti-aircraft escort duties. **Morecambe Bay* was completed by J. Samuel White & Co. Ltd., Cowes, Isle of Wight, and *Mounts Bay* was completed by John I. Thornycroft & Co. Ltd., Southampton.

Class Notes
This class and following classes of frigates are now officially classed as Second Rate Frigates. Four of this class were completed as surveying vessels, and two others refitted as despatch vessels, see later page. Cancelled ships: *Hollesley Bay* (ex-*Loch Fannich*), *Runswick Bay*

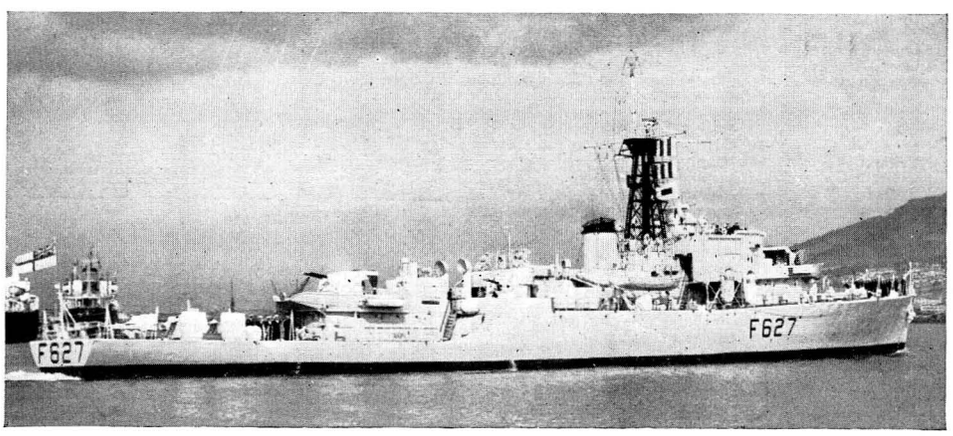
Transfer Notes
Bigbury Bay and *Burghead Bay* were transferred to the Portuguese Navy at Plymouth on 11 May 1959 and renamed *Pacheo Pereira* and *Alvares Cabral*, respectively

Recent Disposals
Whitesand Bay of this class was scrapped in 1956. *Enard Bay* and *Widemouth Bay* were scrapped in 1957. *Carnarvon Bay*, *Cawsand Bay*, *Largo Bay*, *Padstow Bay*, *St. Austell Bay*, *Start Bay*, *Tremadoc Bay* and *Veryan Bay* were stricken from the Navy List in 1958 and *Wigtown Bay* was also scrapped in 1959.

General Note for " Loch-Bay " Type
" Bay " class and " Loch " class (see following page) were originally one class, but were subsequently sub-divided according to function, with differing armament. They could be refitted interchangeably as either anti-aircraft or anti-submarine vessels. Early units had " war finish," but later units were not so austere.



MORECAMBE BAY *Added* 1959, *Wright & Logan*



MOUNTS BAY 1958, *R. M. Scott*

Pennant No	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 630	*Cardigan Bay*	Henry Robb, Ltd., Leith	14 Apr. 1944	28 Dec. 1944	15 June 1945
F 624	**Morecambe Bay*	Wm. Pickersgill, Ltd., Sunderland	30 Apr. 1944	1 Nov. 1944	22 Feb. 1949
F 627	**Mounts Bay*	Wm. Pickersgill, Ltd., Sunderland	23 Oct. 1944	8 June 1945	11 Apr. 1949
F 650	*Porlock Bay*	Charles Hill & Sons, Ltd., Bristol	22 Nov. 1944	14 June 1945	8 Mar. 1946
F 600	*St. Bride's Bay*	Harland & Wolff Ltd., Belfast	30 May 1944	16 Jan. 1945	15 June 1945

Frigates—*continued*

11 " Loch " Class. 2nd Rate
(Anti-Submarine Type)

1 *Ailsa S.B. Co.*
LOCH VEYATIE

1 *Barclay Curle*
LOCH ALVIE

1 *Burntisland S.B. Co.*
LOCH FYNE

3 *Caledon S.B. Co.*
LOCH LOMOND
LOCH MORE
LOCH TRALAIG

1 *Clydebank*
LOCH FADA

2 *Harland & Wolff*
LOCH CRAGGIE
LOCH KILLISPORT

2 *Charles Hill & Sons*
LOCH RUTHVEN

1 *Robb*
LOCH INSH

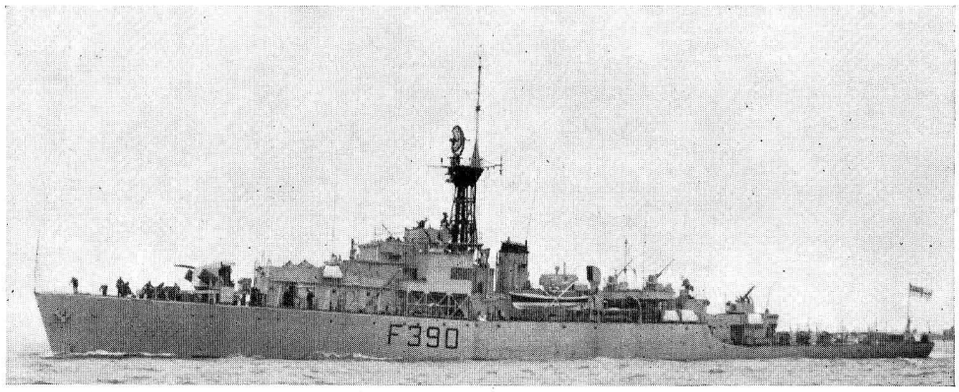
Displacement:	1,575 tons *standard* (2,400 tons *full load*)
Dimensions:	286 (*pp.*), 307 (*o.a.*) × 38½ × 12 feet, 14¾ feet (*max.*)
Guns:	2—4 inch, 6—40 mm. Mk. 9 Bofors AA. (after refit), some still have 1—4 inch, 4—40 mm. AA., 4—2 pdr.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts. (*Loch Tralaig* has double-reduction geared turbines)
Boilers:	2 Admiralty 3-drum type
Oil fuel	724 tons
Radius:	9,500 miles at 12 kts.
Complement:	124 to 140

General Notes
Designed primarily for anti-submarine escort duties. Original displacement was 1,435 tons *standard* (2,260 tons *full load*). *Loch Craggie* was completed at Clydebank. *Loch Killisport* has a fibre glass shield on " A " gun.

Gunnery Notes
Loch Alvie, Loch Fada, Loch Fyne, Loch Insh, Loch Killisport, Loch Lomond, Loch Ruthven, Loch Tralaig and *Loch Veyatie* have been rearmed and modernised.

Class Notes
Loch Assynt and *Loch Torridon* were converted into depot and repair ships and renamed *Derby Haven* (transferred to Persia in 1949 as a frigate and renamed *Babr*) and *Woodbridge Haven*, respectively. *Loch Ard, Loch Boisdale* and *Loch Cree* were presented to the South African Navy in 1944-45 and renamed *Transvaal, Good Hope* and *Natal*, respectively, and *Loch Achanalt, Loch Achray, Loch Eck, Loch Katrine, Loch Morlich* and *Loch Shin* were sold to the Royal New Zealand Navy in 1948.

Photograph Notes
Photographs of *Loch Alvie* in the 1954-55 to 1959-60 editions, of *Loch Lomond* in the 1958-59 edition, and of *Loch Ruthven* in the 1953-54 to 1957-58 editions.



LOCH FADA — 1960, *Wright & Logan*



LOCH FYNE — 1959, *Wright & Logan*

Recent Disposals
Loch Glendu and *Loch Quoich* were scrapped in 1957. *Loch Scavaig* was scrapped in 1958. *Loch Tarbert* was scrapped in 1959 and *Loch Arkaig* was scrapped in 1960, and *Loch Denvegan* and *Loch Killin* were approved to be scrapped in 1960. *Loch More* is in supplementary reserve.
Loch Gorm is surplus to naval requirements and is on the sale list. *Loch Tralaig* is an office ship used as an administration ship for the Reserve Fleet.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
F 428	*Loch Alvie*	31 Aug. 1943	14 Apr. 1944	21 Aug. 1944
F 609	*Loch Craggie*	28 Dec. 1943	23 May 1944	23 Oct. 1944
F 390	*Loch Fada*	8 June 1943	14 Dec. 1943	10 Apr. 1944
F 429	*Loch Fyne*	8 Dec. 1943	24 May 1944	9 Nov. 1944
F 433	*Loch Insh*	17 Nov. 1943	10 May 1944	20 Oct. 1944
F 628	*Loch Killisport*	28 Dec. 1943	6 July 1944	9 July 1944
F 437	*Loch Lomond*	7 Dec. 1943	19 June 1944	16 Nov. 1945
F 639	*Loch More*	16 Mar. 1944	3 Oct. 1944	24 Feb. 1946
F 645	*Loch Ruthven*	4 Jan. 1944	3 June 1944	6 Oct. 1945
F 655	*Loch Tralaig*	26 June 1944	12 Feb. 1945	4 July 1945
F 658	*Loch Veyatie*	30 Mar. 1944	8 Oct. 1945	13 July 1945

Frigate (ex-Sloop)
1 " Black Swan " Class. 2nd Rate
(Anti-Aircraft Type)

CRANE

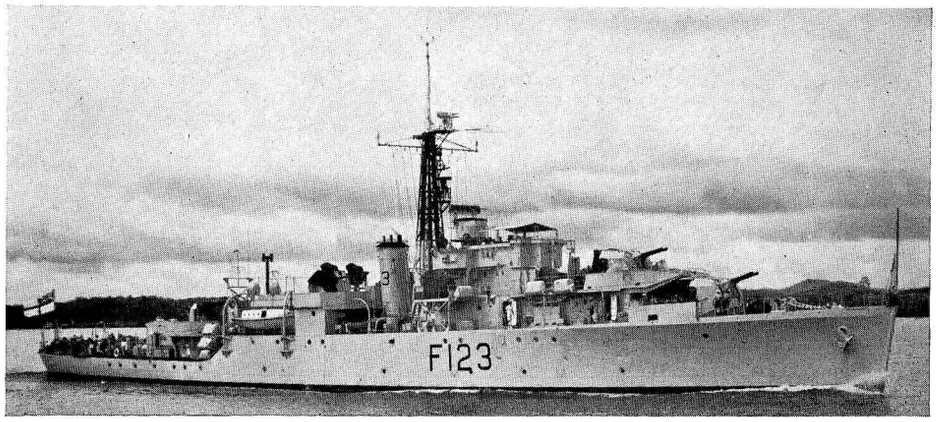
Pennant No.:	F 123
Builders:	Wm. Denny & Bros. Ltd., Dumbarton
Laid down:	13 June 1941
Launched:	9 Nov. 1942
Completed:	10 May 1943
Displacement:	1,490 tons *standard* (1,975 tons *full load*)
Dimensions:	299½ × 38½ × 8¾ feet (11 feet *max.*)
Guns:	6—4 inch, 8—40 mm. AA.
A/S weapons:	Split hedgehog. 4 D.C.T. 2 D.C. racks. 40 D.C.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 4,300=19·75 kts. Sea speed 19 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	192

General Notes
Survivor of a large class of ships originally rated as sloops which in 1947 were officially reclassified as frigates. The designed displacement was 1,350 tons with a speed of 20 kts. but a large amount of extra equipment was added as compared with the earlier " Black Swan " type, resulting in increased displacement and reduced speed. Fitted with the Denny-Brown ship stabilisers. This class proved most successful in service.

Appearance Notes
Large escape ports (visible in photo) in both forward mess decks.

Class Notes
Redpole and *Starling* of this class were disarmed for employment as navigational training ships. *Erne* was converted and reconstructed as stationary drillship for Solent Division R.N.V.R. in 1952 (renamed Wessex).

Photograph Notes
Photographs of *Modeste* in the 1953-54 to 1959-60 editions, *Magpie* in the 1954-55 to 1958-59 editions, and *Peacock* in the 1954-55 to 1957-58 editions.



CRANE — 1959, Official

Transfer Notes
Whimbrel was transferred to the Egyptian Navy in 1949. *Actaeon, Flamingo, Hart* and *Mermaid* were allocated to the new West German Federal Navy in 1957, and were delivered in 1958 and 1959.

War Losses
Ibis and *Woodpecker* were lost during the Second World War.

Recent Disposals
Woodcock was placed on the disposal list in 1955. *Cygnet* *Wild Goose* and *Wren* were also scrapped in 1956. *Amethyst*, damaged in action on Yangtse, 1949, was scrapped in 1956. *Alacrity* was scrapped at the end of 1956. *Black Swan* of earlier group was also scrapped in 1956. *Hind* (broken up in 1959), *Magpie, Nereide, Peacock* and *Sparrow* were stricken from the Navy List in 1958.
Modeste, Opossum, Pheasant and *Snipe* were scrapped or were for disposal in 1960.

Recent Disposals of Frigates of other Classes
" Castle " Class:—*Amberley Castle, Pevensey Castle* and *Rushen Castle* are being sold to the Air Ministry as Weather Ships. *Dumbarton Castle, Morpeth Castle* and *Oxford Castle* are on the sales list. *Farnham Castle* and *Lancaster Castle* were also earmarked for disposal in 1960.
Modified " Black Swan " Class (Navigational Training Ships):—*Starling* is on the sales list, and *Redpole* is also earmarked for disposal in 1960.
" River " Class:—*Ballinderry* and *Derg* are office ships in extended reserve, and little more than hulks.
" Hunt " Group:—" Brecon " Class (Type IV): *Brecon* is a fender ship and is for disposal, and *Brissenden* is on the sales list. " Albrighton " Class (Type III): *Talybout* is for disposal. " Blankney " Class (Type II): *Wilton* was scrapped in 1960, and *Farndale* is on the sales list.
Modified " Aberdeen " Class:—*Fleetwood* was scrapped in 1960 (sailed from Portsmouth on 7 Oct. 1959 for breakers' yard at Tyneside).
Full particulars, photographs and detailed disposals of all ships of all these classes since the end of the Second World War, appear in the 1959-60 edition.

Modified Frigates

Experimental A/S Frigate

1 "Atherstone" Class. ("Hunt" Type I)

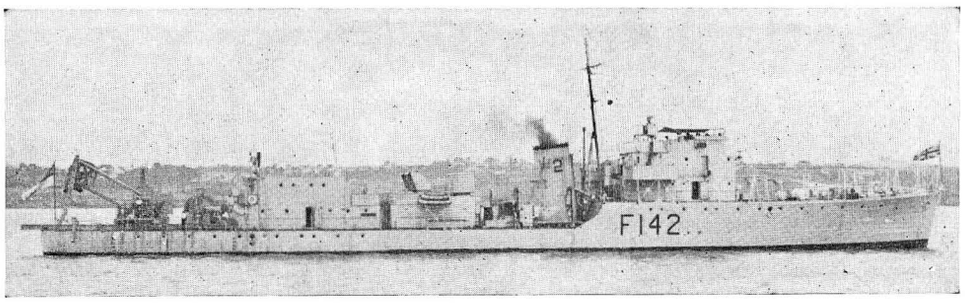
(Asdic Trials Ship)

BROCKLESBY

Pennant No.:	F 142
Builders:	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	18 Nov. 1939
Launched:	30 Sep. 1940
Completed:	9 Apr. 1941
Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	273½ (*pp.*), 280 (*o.a.*) × 29 × 7¾ (*mean*), 14 (*max.*) feet
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=30 kts. (designed). Sea speed 26·75 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	280 tons
Radius:	2,000 miles at 12 kts.
Complement:	146

General Notes

Survivor of a type designed as escort vessels and rated as destroyers until 1947, when they were officially reclassified as anti-aircraft frigates. Used for Asdic Training and trials.



BROCKLESBY (Asdic experimental equipment and cabins aft) 1957 ,*courtesy Godfrey H. Walker ,Esq.*

She is disarmed and has a deckhouse aft, with variable depth sonar equipment.

Class Notes

A total of 23 of this class were built. *Mendip* transferred to Chinese Navy in May, 1948, was returned to the Royal Navy a year later, but transferred to Egypt in 1949 and captured by Israel in 1956. *Cottesmore* was also transferred to Egypt in 1951. *Meynell* and *Quantock* were purchased by Ecuador in 1955. *Liddesdale* was discarded.

War losses: *Berkeley*, *Exmoor*, *Quorn*, *Tynedale*.

Recent Disposals

Cotswold and *Hambledon* were used as artificial harbour at Harwich. *Eglinton* was scrapped in 1956. *Blencanthra*, *Cleveland*, *Fernie*, *Holderness*, *Pytchley* and *Southdown* were scrapped in 1957. *Atherstone*, *Cattistock*, *Garth* and *Whaddon* were scrapped in 1958.

For disposals of "Hunt" types II, III and IV see previous page and 1959-60 edition.

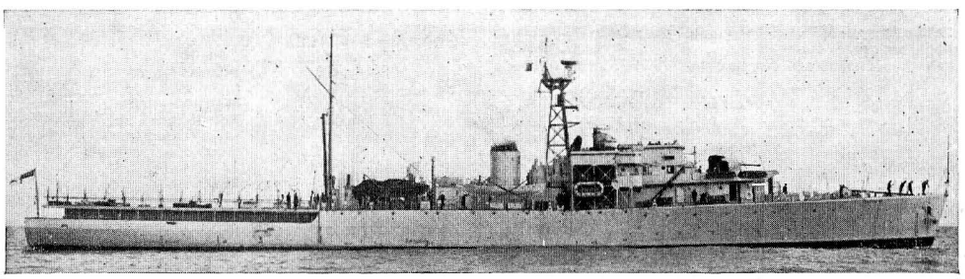
Despatch Vessels (Ex-Frigates)

2 Modified "Loch-Bay" Type

ALERT (ex-*Dundrum Bay*; ex-*Loch Scamadale*)
SURPRISE (ex-*Gerrans Bay*; ex-*Loch Carron*)

Name:	*Alert*	*Surprise*
Pennant No.:	F 647	F 436
Builders:	Blyth Dry Docks & S.B. Co., Ltd.	Smith's Dock Co., Ltd., South Bank-on-Tees
Laid down:	28 July 1944	21 Apr. 1944
Launched:	10 July 1945	14 Mar. 1945
Completed:	24 Oct. 1946	9 Sep. 1946

Displacement:	1,590 tons *standard* (2,440 tons *full load*)
Dimensions:	286 (*pp.*), 307½ (*o.a.*) × 38½ × 12¾ feet, 15 feet (*max.*)
Guns:	2—4 inch, 2—40 mm. 4—3 pdr.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	720 tons
Radius:	10,000 miles at 10 to 12 kts.
Complement:	160



ALERT 1955, *Official*

General Notes

Originally frigates of "Loch" class, these ships were to have been completed as units of "Bay" class, but were modified with reduced armament and extra accommodation to serve as Despatch Vessels or Commanders-in-Chief's "yachts" on Far East and Mediterranean Stations, respectively. *Surprise* was refitted as a temporary Royal Yacht for the Coronation Naval Review at Spithead on 15 June 1953, the twin 4 inch gun mounting in "B" position being removed to provide an inspecting platform dais for Her Majesty The Queen.

Photograph Notes

Photographs of *Surprise* appear in the 1947-48 to 1957-58 editions.

Minesweeper Support Ship (Ex-Frigate)

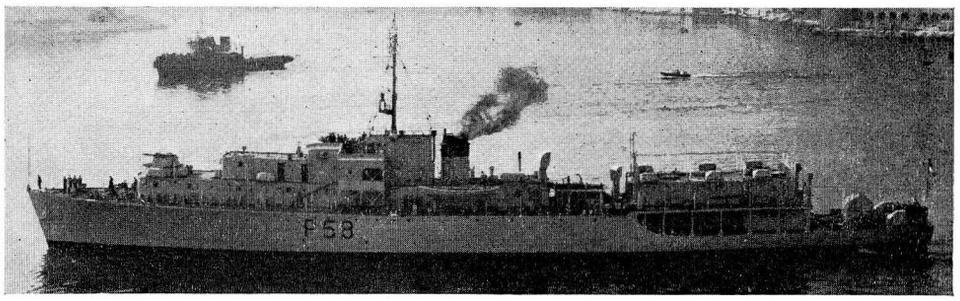
1 Modified "Loch" Class

WOODBRIDGE HAVEN (ex-*Loch Torridan*)

Pennant No.	P 58
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
Laid down:	2 May 1944
Launched:	13 Jan. 1945
Completed:	19 Oct. 1945
Displacement:	1,652 tons *standard* (2,160 tons *full load*)
Dimensions:	307½ × 38½ × 14 feet
Guns:	2—40 mm. Bofors AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	725 tons
Radius:	10,000 miles at 10 kts.
Complement:	160

General Notes

Built as a "Loch" class frigate but converted into a Submarine Depot and Repair Ship. Used as a submarine target ship 1946-54. Headquarters Ship of 2nd Minesweeping Squadron in the Mediterranean in 1955, and Captain Inshore Flotilla, Mediterranean, in 1959. Reclassified as Minesweeper Support Ship in 1960.



WOODBRIDGE HAVEN 1960, *A. & J. Pavia*

Class Notes

Sister ship *Derby Haven* (ex-*Loch Assynt*) was transferred as a frigate to the Imperial Iranian Navy (Persia) in 1949 and renamed *Babr* (Panther).

Landing Ship Headquarters (Ex-Frigate)

1 "River" Class

MEON

Pennant No.:	L 369 (ex-F 269)
Builders:	A. & J. Inglis, Ltd., Glasgow
Laid down:	31 Dec. 1942
Launched:	4 Aug. 1943
Completed:	31 Dec. 1943
Displacement:	1,370 tons *standard* (1,865 tons *full load*)
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36¾ × 12 feet
Guns:	2—40 mm., 4—20 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (sea speed 18 kts.)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	640 tons
Radius:	9,500 miles at 12 kts.

General Notes

Originally a unit of the "River" class frigates. Pennant No. changed from F 269 to L 369 in 1958 when the forward 40 mm. gun was removed. *Meon* and *Waveney* were converted from the original frigate type to "Landing Ship Headquarters (Small)."

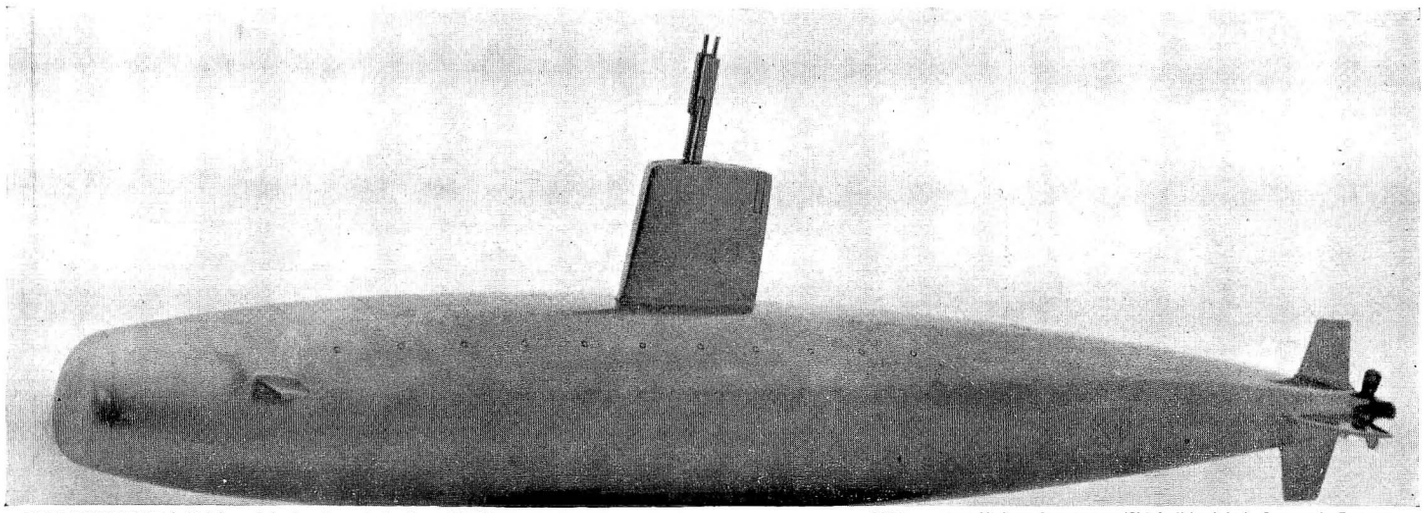


MEON (L Pennant No., forward gun removed) 1959, *A. & J. Pavia*

Disposal Notes

Sister ship *Waveney* was scrapped in 1958. For disposals o "River" class frigates see previous page and 1959-60 edition.

SUBMARINES



DREADNOUGHT (official model, showing whale-shaped hull) 1960, *courtesy Vickers Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness*

Guided Missile Notes

The Minister of Defence has asked the Admiralty to put in hand an urgent study of the requirements for British-built submarines capable of carrying the "Polaris" type missile.

Nuclear Powered Submarines

Hunter Killer (*Anti-Submarine*) Type

1 Projected

Ordered:	1960
Displacement:	3,000 tons
Dimensions:	Similar to *Dreadnought*
Tubes:	Similar to *Dreadnought*
Machinery:	British prototype

General Notes

The Civil Lord of the Admiralty announced on 7 Mar. 1960 that it is planned to order in 1960 a second nuclear powered submarine which will be British made. Her hull will be broadly of the same Admiralty design as the *Dreadnought*'s.

Engineering Notes

It is officially stated that her reactor core will be made in Great Britain, and her machinery will be of British design and manufacture, after the pattern of the shore prototype now being installed in the Admiralty Reactor Test Establishment at Dounreay.

Anti-Submarine Notes

The Admiralty states that she will be equipped to hunt and kill enemy submarines and surface warships, and she will also be designed to carry an asdic that can detect at much greater ranges than those at present fitted in British conventional submarines. She will not carry ballistic missiles and could not be converted to do so, as ballistic missile submarines are of a different size and design.

1 New Construction

DREADNOUGHT

Pennant No.:	S 80
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness
Engineers:	Rolls-Royce Ltd. and Westinghouse Electric Corporation
Laid down:	12 June 1959
Launched:	21 Oct. 1960
Displacement:	3,000 tons *standard*, 4,000 tons *submerged*
Dimensions:	300 × 30 × 17 feet
Tubes:	All internal
Machinery:	Pressurised water cooled nuclear reactor. Geared turbines. Speed: 30 kts. (*approx.*) (See *Engineering Notes*.)
Complement	About 80

General Notes

The Royal Navy's first nuclear powered submarine, specially designed to hunt and destroy enemy underwater craft. A prominent feature of her design is her whale-shaped hull, the near-perfect streamlining giving maximum underwater efficiency, while the fin-like conning tower is also aimed at reducing "drag" to a minimum. She will be capable of continuous high underwater speed and have long endurance. Her hull is British built, but her nuclear plant was manufactured in the United States. It was announced by the Admiralty on 10 Aug. 1959 that the General Dynamics Corporation, U.S.A., had been awarded a contract for help in the construction of the *Dreadnought*.

Engineering Notes

A complete nuclear reactor for installation in the *Dreadnought* has been purchased in the United States. The General Dynamics Corporation provided design, material and technical assistance in the installation of the propulsion system. The propulsion plant itself was placed under contract to the Westinghouse Electric Corporation by Rolls-Royce Ltd., who acted as agents for the Admiralty.

Britain's first atomic submarine engine is being built at Dounreay, Scotland, in a recently constructed plant.

The British reactor will be installed in a second hull which is being ordered in 1960 (see notes above).

Manoeuvrability Notes

This submarine will manoeuvre and travel underwater with movements similar to those of an aircraft banking in flight, as she will have controls like those in an aeroplane.

Illustration Notes

An Admiralty artist's cutaway impression (frontispiece) and another official underwater depiction appear in the 1959-60 edition.

Dimensional Notes

It is officially stated that the Dreadnought will be twice the size of present submarines.

Nomenclature Notes

The name *Dreadnought* was approved by Her Majesty The Queen for this, the first British atomic powered submarine. This announcement was made by the Parliamentary and Financial Secretary to the Admiralty when introducing the 1957-58 Navy Estimates.

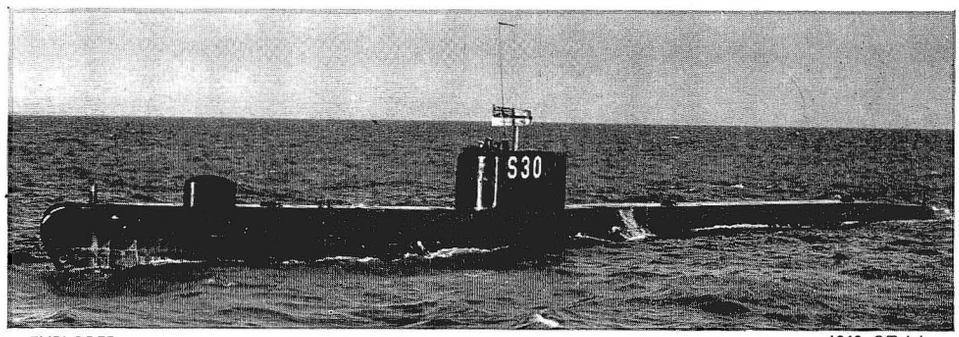
The last two vessels named *Dreadnought* in the Royal Navy were battleships launched in 1875 and 1906.

High Test Peroxide Experimental Submarines

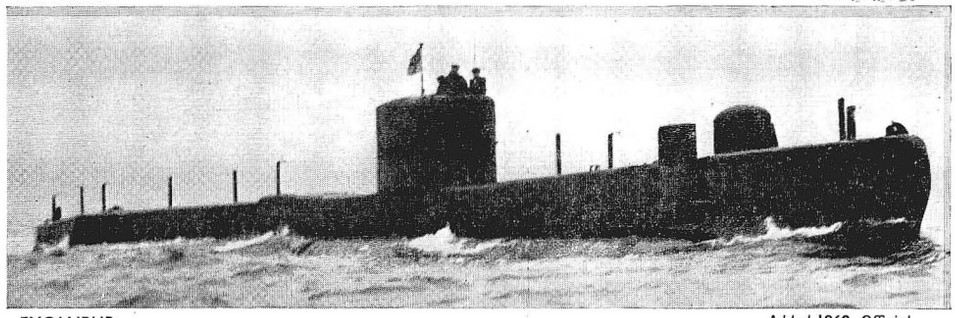
Fast Type

	EXCALIBUR	**EXPLORER**
Name:	*Excalibur*	*Explorer*
Pennant No.:	S 40	S 30
Builders:	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness	Vickers-Armstrongs (Shipbuilders) Ltd., Barrow-in-Furness
Engineers:	Vickers-Armstrongs (Engineers) Ltd. Barrow-in-Furness	Vickers-Armstrongs (Engineers) Ltd., Barrow-in-Furness
Launched:	25 Feb. 1955	5 Mar. 1954
Completed:	22 Mar. 1958 (provisionally accepted)	28 Nov. 1956

Displacement:	780 tons *standard*, *ca* 1,000 tons *submerged*
Dimensions:	178½ (*pp.*), 225½ (*o.a.*) × 15⅝ × 11 feet
Machinery:	Diesel electric. Hydrogen Peroxide plant by Vickers-Armstrongs, Ltd. (see notes)
Speed:	More than 25 kts. *submerged*
Complement:	*Excalibur* : 41 (6 officers, 35 ratings). *Explorer*: 49 (7 officers, 42 ratings) in peace-time (officially revised figures)



EXPLORER 1960, *Official*



EXCALIBUR *Added* 1960, *Official*

General Notes

Of new streamlined type designed to operate at high underwater speeds. The propulsive machinery is of novel design employing high test peroxide. Fitted with the latest submarine escape arrangements, including the one-man escape chamber, and equipped with the most recent submarine escape breathing apparatus for use by the ship's company in the event of an emergency. *Explorer* was the first submarine to be launched for the Royal Navy since the last of the "A" class submarines was launched in 1947. She will serve to provide experience in the operation of her diesel-electric-turbine combination and as a fast underwater target to train surface forces in the tactics which would be required to destroy submarines with high underwater speeds. She has long endurance.

The *Explorer* was designed by the Admiralty and built by Messrs. Vickers-Armstrongs Ltd., Barrow-in-Furness, from whom she was provisionally accepted into service on 8 May 1956.

H.M.S. *Explorer* is well streamlined. Most of her superstructure fittings are retractable. Her manoeuvrability submerged at high speed is very good and she is readily controllable at all speeds. Apart from the indications of instruments and a tremor on the depth gauge there is nothing to suggest high speed to the crew when she is submerged.

She is unarmed, and her complement of officers and ratings are accommodated in her tender *Miner VIII*.

Excalibur, which cost £1,142,000, was provisionally accepted from her builders on 22 Mar. 1958.

Engineering Notes

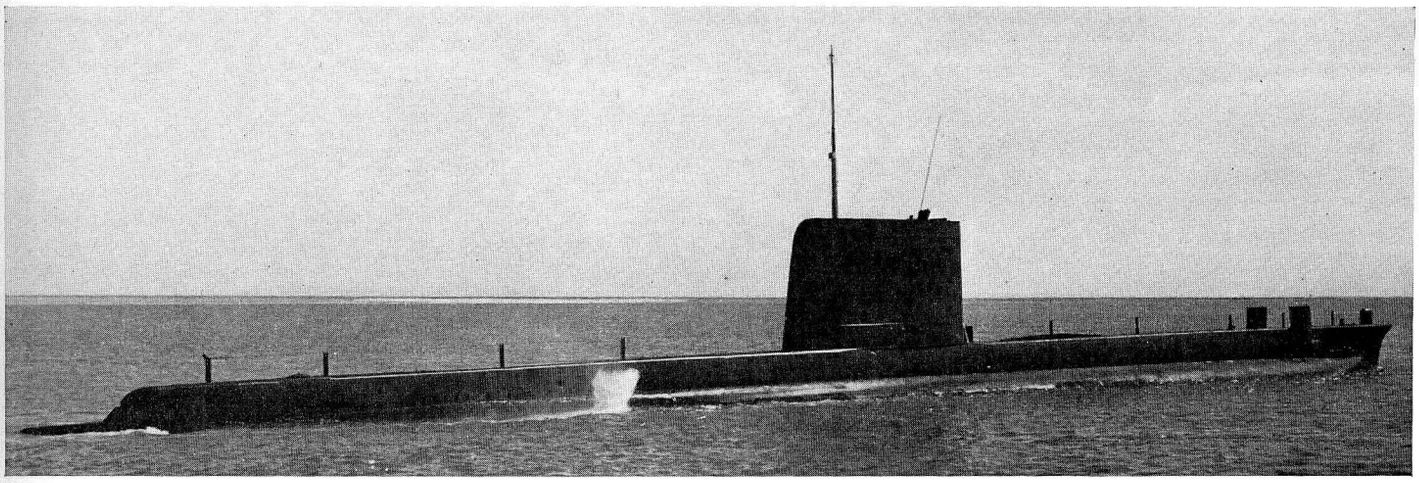
In these experimental high speed submarines, the main propelling machinery consists of turbines supplied with steam and carbon dioxide produced by burning diesel oil in an atmosphere of steam and oxygen formed by the decomposition of H.T.P. (high test hydrogen peroxide). They are thus able to develop full power when completely submerged and independent of atmospheric oxygen. Conventional means of propulsion at lower speeds is provided by diesel for surface passages and on main motors supplied by batteries when submerged. Officially believed to be the fastest submarines in the world, except the latest nuclear-powered submarines.

Recent Disposals (Midget Type)

Of the three remaining "Midget" Type (X-Craft), namely *Minnow* (X 54), *Shrimp* (X 52) and *Sprat* (X 53), all were on the sales list in 1960.

Sister ship *Stickleback* (X 51) was sold to Sweden on 15 July 1958 and renamed *Spiggen* (Swedish equivalent of "Stickleback").

Submarines—*continued*



PORPOISE (first post-war built operational submarine) 1958, *Official*

Attack Submarines

New Construction

8 + 4 " Oberon " Class

OBERON **OLYMPUS** **ORPHEUS**
ODIN **ONSLAUGHT** **OSIRIS**
ORACLE **OTTER**

Displacement: 1,600 tons *standard*, 2,030 tons *surface*, 2,400 tons *submerged*
Dimensions: 295½(*o.a.*), 241 (*pp.*) × 26½ × 15 feet
Tubes: 21 inch
Machinery: Admiralty Standard Range diesels. Electric drive
Complement: 71 (6 officers, 65 ratings).

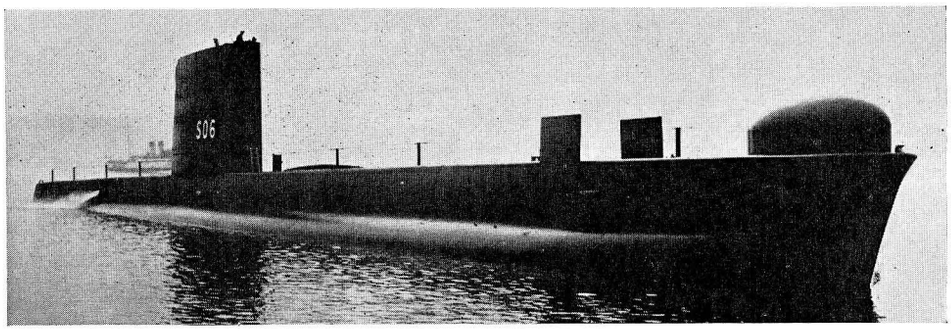
General Notes

Practically repeat editions of the " Porpoise " class. The prototype of the class was the *Oberon*, which will have improved detection equipment and will be capable of high underwater speeds. She will be able to maintain continuous submerged speeds in any part of the world and will be equipped to fire homing torpedoes. In edition to those named above four more "Oberon" class submarines are under construction.

Construction Notes

For the first time in any British submarine plastic has been used in the superstructure construction of the *Oberon*. Before and abaft the bridge the superstructure will be glass fibre laminate. The superstructure of the second ship, *Orpheus*, is of aluminium.

Pennant No.	*Name*	*Builders*	*Launched*
S 19	*Oberon*	H.M. Dockyard, Chatham	18 July 1959
S 20	*Odin*	Cammell Laird & Co. Ltd., Birkenhead	
S 46	*Olympus*	Vickers-Armstrongs Ltd., Barrow-in-Furness	
S 57	*Onslaught*	H.M. Dockyard, Chatham	
S 60	*Oracle*	Cammell Laird & Co. Ltd., Birkenhead	
S 45	*Orpheus*	Vickers-Armstrongs Ltd., Barrow-in-Furness	17 Nov. 1959
S 50	*Osiris*	Vickers-Armstrongs Ltd., Barrow-in-Furness	
S 59	*Otter*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock	



CACHALOT 1960, *Official*

New Construction

8 " Porpoise " Class

CACHALOT **NARWHAL** **SEALION**
FINWHALE **PORPOISE** **WALRUS**
GRAMPUS **RORQUAL**

Displacement: 1,600 tons *standard*, 2,030 tons *surface*, 2,400 tons *submerged*
Dimensions: 295½ (*o.a.*) × 26½ × 15 feet
Tubes: 8—21 inch. Internal (6 bow and 2 stern)
Machinery: Admiralty Standard Range diesel-electric. All battery drive. High submerged speed
Complement: 6 officers, 65 ratings (*Porpoise* 64)

General Notes

It was officially stated in April 1958 that the *Porpoise*, the first operational submarine designed since the Second World War to be accepted into service, is able to undertake continuous submerged patrol in any part of the world. The design of her hull and superstructure reflects her capabilities of high underwater speed and great diving depth. Stress has also been laid on long endurance, both on the surface and submerged, whether on batteries or snorting. She is propelled on the surface, or when snorting, by diesel-electric drive from Admiralty Standard Range diesels, and from a large battery driving the motors when submerged. The snort equipment has been designed to give maximum snort-charging facilities and to operate in rough sea conditions. Both air and surface warning radar can be operated at periscope depth as well as when surfaced. The general habitability is of the highest standard, with strip lighting and an air conditioning plant which provides drying and either heating or cooling of the air for arctic or tropical service. Oxygen replenishment and carbon dioxide and hydrogen eliminators make it possible for the *Porpoise* to remain totally submerged without even using her snort for several days. Apparatus to distil fresh water from sea water for drinking purposes, and stowage for large quantities of stores and provisions enable her to remain on patrol for months without any outside support.

Engineering Notes

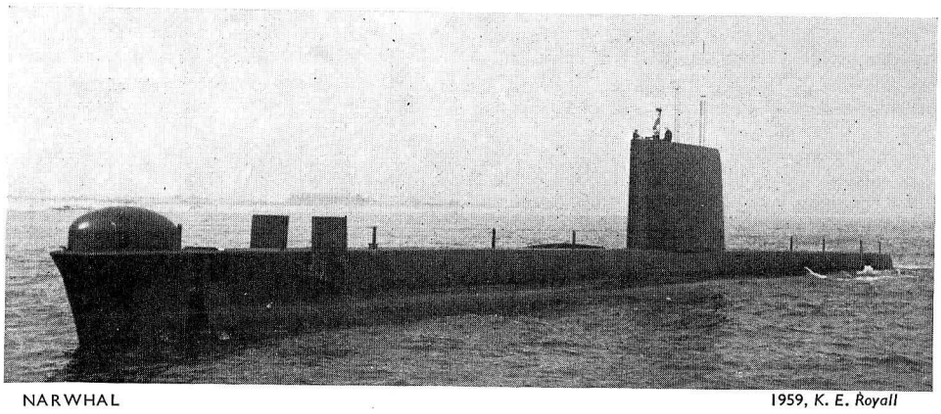
The main propelling machinery was manufactured by the hull builders except in *Cachalot* and *Walrus* by H.M. Dockyard, Chatham.

Electrical Notes

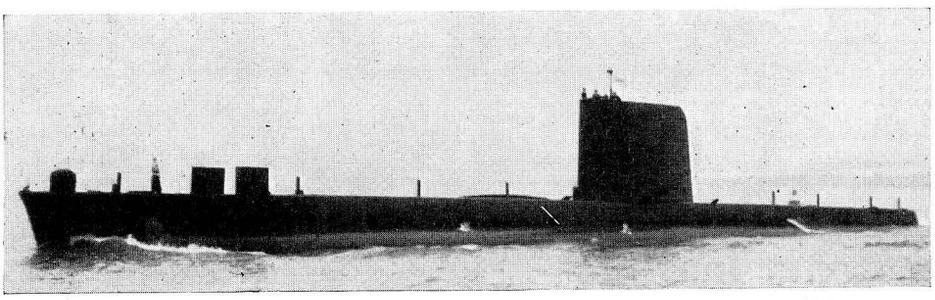
The electric propulsion system in all eight boats was manufactured by The English Electric Co., Ltd., Rugby, and is of a more advanced design than has been employed hitherto.

Photograph Notes

Photograph of *Grampus* in the 1959-60 edition.



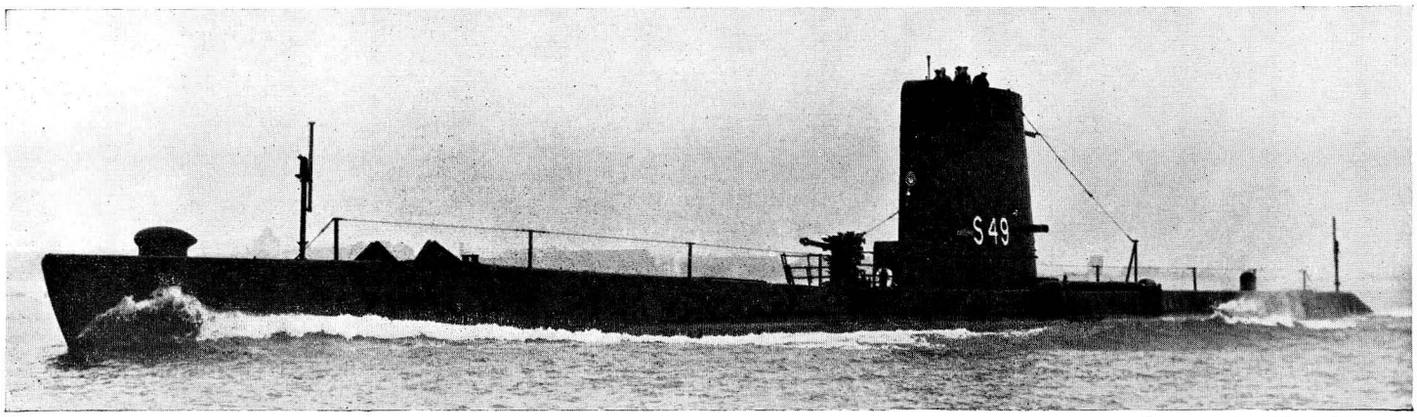
NARWHAL 1959, *K. E. Royall*



RORQUAL 1959, *Official*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
S 06	*Cachalot*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock	11 Dec. 1957	1 Sep. 1959
S 05	*Finwhale*	Cammell Laird & Co. Ltd., Birkenhead	21 July 1959	
S 04	*Grampus*	Cammell Laird & Co. Ltd., Birkenhead	30 May 1957	19 Dec. 1958
S 03	*Narwhal*	Vickers-Armstrongs Ltd., Barrow-in-Furness	25 Oct. 1957	4 May 1959
S 01	*Porpoise*	Vickers-Armstrongs Ltd., Barrow-in-Furness	25 Apr. 1956	17 Apr. 1958
S 02	*Rorqual*	Vickers-Armstrongs Ltd., Barrow-in-Furness	5 Dec. 1956	24 Apr. 1958
S 07	*Sealion*	Cammell Laird & Co. Ltd., Birkenhead	31 Dec. 1959	
S 08	*Walrus*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock	22 Sep. 1959	

Submarines—*continued*



ARTEMIS (with 4-inch gun mounted) — 1960, *Wright & Logan*

15 "A" Class

2 *Cammell Laird & Co. Ltd., Birkenhead*
AENEAS
ALARIC

1 *H.M. Dockyard, Chatham*
ACHERON

2 *Scotts S.B. & Eng. Co. Ltd., Greenock*
ARTEMIS
ARTFUL

10 *Vickers-Armstrongs Ltd., (Barrow-in-Furness)*
ALCIDE
ALDERNEY
ALLIANCE
AMBUSH
AMPHION (ex-*Anchorite*)
ANCHORITE (ex-*Amphion*)
ANDREW
ASTUTE
AURIGA
AUROCHS

Displacement:	1,120 tons *standard*, 1,385 tons *surface*, 1,620 tons *submerged*
Dimensions:	221 (*p.p.*), 281¾ (*o.a.*), converted boats 283 (*o.a.*) × 22¼ × 17 feet
Guns:	1—4 inch, 7 M.G. (4-inch removed in most, see notes)
Tubes:	8—21 inch, 4 bow and 4 stern, 2 stern being external, 20 torpedoes carried (or 22 mines). (Two external torpedo tubes forward were removed in most)
Machinery:	8 cyl. Diesels, B.H.P.: 4,300= 19 kts. *surface*; Electric motors. H.P.: 1,250= 8 kts. *submerged*
Oil fuel:	159 tons
Complement:	60

General Notes
These submarines were primarily designed for service in the Pacific, and have a different hull form from "T" type. Construction is entirely welded, and all possess "Snort" breathing equipment. *Alliance* and *Ambush*, so fitted, remained submerged for record periods in 1947-48. On 15 June 1953, *Andrew* completed a 2,500 sea miles voyage under water from Bermuda to the English Channel in 15 days, a record for "snorting" in the Royal Navy.

Gunnery Notes
Of the boats of this class which have not been "guppied" *Acheron*, *Alaric* and *Amphion* have had the 4-inch guns removed. *Aeneas*, *Alcide*, *Artemis* and others mount the 4-inch gun.

Conversion Notes
The "A" class are being rebuilt and streamlined in the same way as the American "Guppy" type with an enclosed fin conning tower 26½ feet high. *Artful* was the first to undergo reconstruction in 1955 followed by *Alderney*, *Ambush*, *Anchorite*, *Andrew*, *Artemis*, *Astute*, *Auriga*, *Aurochs* and *Amphion*. *Alliance* and others are also in hand for conversion. *Alderney* and others are fitted with a mounting for a gun. *Aeneas* had a 4-inch gun mounted in Feb. 1960.

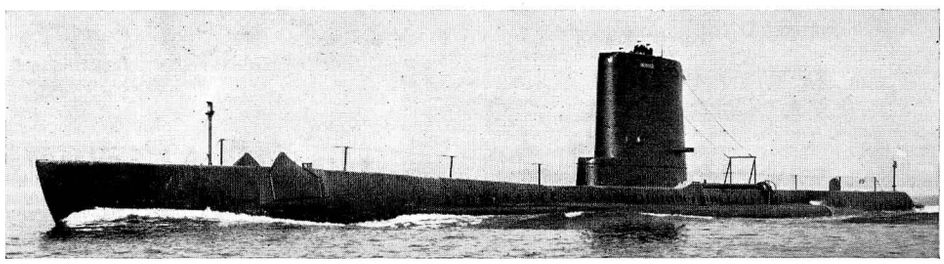
Torpedo Notes
Few boats of the "A" class retain after external tubes, or any external tubes at all.

Photograph Notes
An aerial bow view of *Artful* appears in the 1958-59 and 1959-60 editions, a photograph of *Acheron* in the 1958-59 edition, and of *Anchorite* in the 1957-58 and earlier editions.

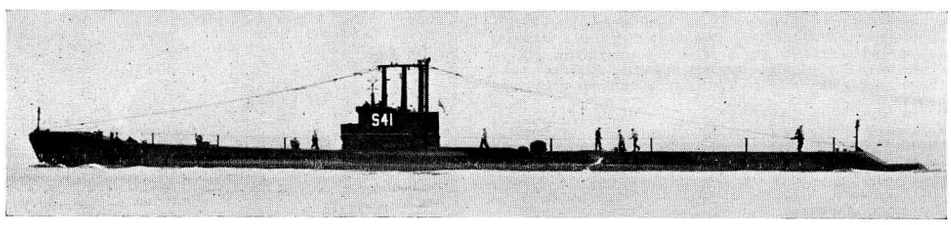
Class Notes
The following 30 units were cancelled, though some had actually been launched: *Abelard*, *Acasta*, *Ace*, *Achates*, *Adept*, *Admirable*, *Adversary*, *Agate*, *Aggressor*, *Agile*, *Aladdin*, *Alcestis*, *Andromache*, *Answer*, *Antaeus*, *Antogonist*, *Anzac*, *Aphrodite*, *Approach*, *Arcadian*, *Argent*, *Argosy*, *Asgard*, *Asperity*, *Assurance*, *Astarte*, *Atlantis*, *Austere*, *Awake*, *Aztec*. The *Affray* was lost in the English Channel on 17 Apr. 1951.

Appearance Notes
The appearance of submarines, with or without guns, etc., is liable to change frequently and quickly according to operational and experimental requirements.

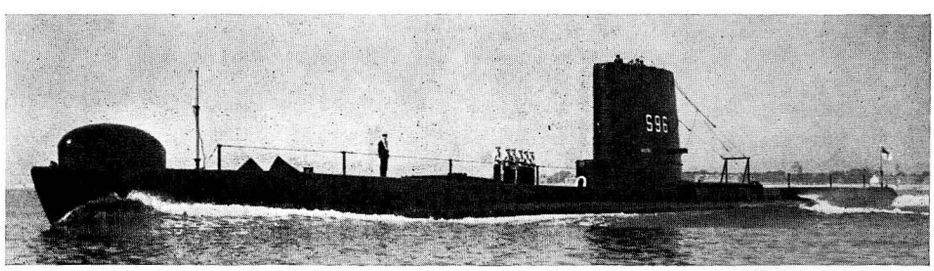
Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
S 11	*Acheron*	26 Aug. '44	25 Mar. '47	17 Apr. '48
S 27	*Aeneas*	10 Oct. '44	25 Oct. '45	31 July '46
S 41	*Alaric*	31 May '44	18 Feb. '46	11 Dec. '46
S 15	*Alcide*	2 Jan. '45	12 Apr. '45	18 Oct. '46
S 16	*Alderney*	6 Feb. '45	25 June '45	10 Dec. '45
S 17	*Alliance*	13 Mar. '45	28 July '45	14 May '47
S 18	*Ambush*	17 May '45	24 Sep. '45	22 July '47
S 43	*Amphion*	14 Nov. '43	31 Aug. '44	27 Mar. '45
S 22	*Anchorite*	19 July '45	22 Jan. '46	18 Nov. '47
S 23	*Andrew*	13 Aug. '45	6 Apr. '46	16 Mar. '48
S 49	*Artemis*	28 Feb. '44	26 Aug. '46	15 Aug. '47
S 96	*Artful*	8 June '44	22 May '47	23 Feb. '48
S 47	*Astute*	4 Apr. '44	30 Jan. '45	30 June '45
S 09	*Auriga*	7 June '44	29 Mar. '45	12 Jan. '46
S 26	*Aurochs*	21 June '44	28 July '45	7 Feb. '47



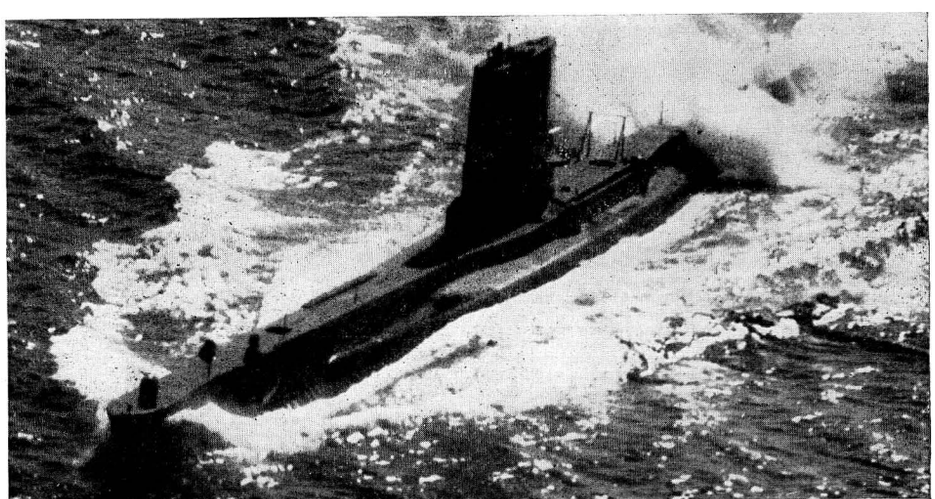
AURIGA — *Added* 1960, *Wright & Logan*



ALARIC — 1960, *Keith Long*



ARTFUL (after second reconstruction) — 1959 ,*Wright & Logan*



ASTUTE (as converted) — 1958, *Official*

Submarines—*continued*

18 "T" Class

3 *H.M. Dockyard, Chatham*
THERMOPYLAE
TRENCHANT
TURPIN

4 *H.M. Dockyard, Devonport*
THULE
TOTEM
TRUNCHEON
TUDOR

2 *H.M. Dockyard, Portsmouth*
TIRELESS
TOKEN

1 *Scotts S.B. & Eng. Co. Ltd., Greenock*
TABARD

8 *Vickers-Armstrongs Ltd (Barrow-in-Furness)*
TACITURN
TACTICIAN
TALENT (ex-*Tasman*)
TAPIR (ex-*Zeehond*)
TEREDO
TIPTOE
TRESPASSER
TRUMP

Displacement:	1,090 tons *standard*, 1,321 tons *surface*, 1,571 tons *submerged* (increased in reconstructed boats)
Dimensions:	265 (*pp.*), 273½ (*o.a.*) × 26½ × 12 feet 285 (*pp.*), 300 (*o.a.*) in reconstructed boats
Guns:	1—4 inch (none in reconstructed boats), 3 M.G. (see *Notes*)
Tubes:	11—21 inch (5 external). 17 torpedoes carried (see *Torpedo Notes*)
Machinery:	Diesels. B.H.P.: 2,500=15 kts. *surface*; Electric motors, H.P.: 1,450=9 kts. *submerged*
Oil fuel:	132 to 210 tons
Complement:	59

General Notes
Officially described as "Patrol" type submarines, for general service. Saddle-tank design, with endurance equal to a 42-day patrol. All fitted with "Snort" equipment. *Talent* was swept out of dry dock in Chatham Dockyard on 15 Dec. 1954 when a caisson collapsed; she was subsequently reconstructed and streamlined with an enclosed conning tower fin which was damaged in collision, while submerged off the Isle of Wight, with an unknown merchant ship, on 8 May 1956.

Reconstruction Notes
There is a considerable difference between the super "T" class "Conversions" (e.g. *Turpin, Taciturn, Thermopylae*) which are welded boats and have had an additional section of about 20 feet built into them, and the "T" class "Streamlines" (e.g. *Tireless*) which are riveted boats and therefore cannot undergo the full conversion. Underwater speed of *Turpin* and *Taciturn* (after reconstruction, streamlined hull, greater batteries) is 15 knots (unofficial).

Torpedo Notes
Re-constructed boats with no external tubes have only 6—21 inch (4 forward, 2 aft).
External tubes removed in *Tireless, Token, Truncheon, Tudor.*

Appearance Notes
Teredo has been streamlined. *Tabard, Taciturn, Talent, Tapir, Thermopylae, Tiptoe, Tireless, Token, Totem, Truncheon. Trump* and *Turpin* have been rebuilt on similar lines to American "Guppy" type. *Talent*, as well as being streamlined, had a gun (old 4 inch remodelled) with no shield, now removed (see photo). *Turpin* is to be fitted with a gun. All non-"Guppy" "T" submarines carry a 4 inch gun: *Tactician, Thule, Trenchant, Trespasser, Tudor.*

Class Notes
Two, *Talent* (2) and *Tarn* were transferred to the Royal Netherlands Navy. *Truculent* sank after collision in the Thames Estuary on 12 Jan. 1950, was salvaged on 14 Mar., but was scrapped on 5 Apr. 1950. *Tantalus, Tantivy* and *Templar* were discarded in 1950. Two lent to the Royal Netherlands Navy in June 1948 were returned to the Royal Navy in 1953, *Tapir* on July 16 and *Taurus* on December 8.

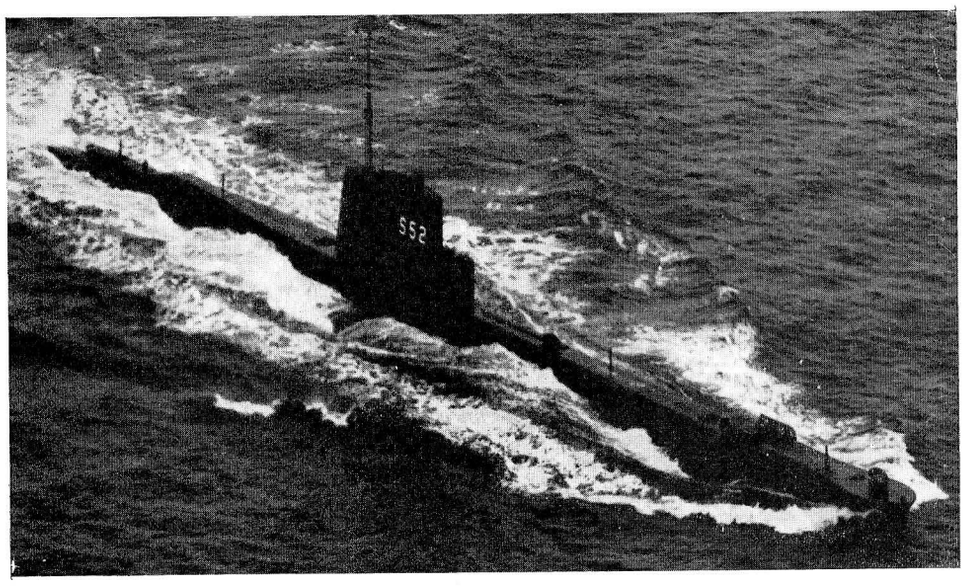
Second World War losses: *Talisman, Tempest, Thorn, Thunderbolt* (ex-*Thetis*), *Tigris, Tarpon, Traveller, Trooper, Tetrarch, Thistle, Triad, Triton, Triumph, Turbulent, P.311.*

Cancelled: *Talent* (1) (*P.343*), *Theban, Thor, Threat, Tiara.*

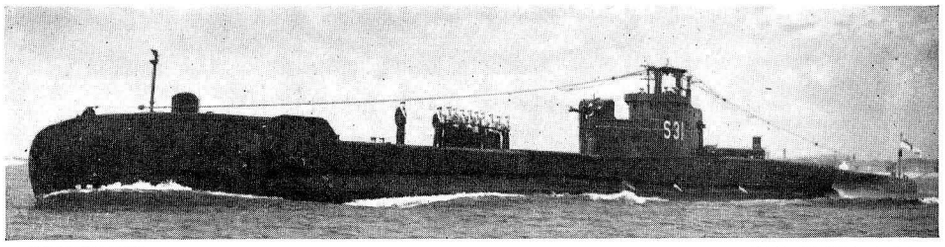
Photograph Notes
Photographs of *Tiptoe* and *Tabard* in the 1959-60 and earlier editions, of *Trespasser* in the 1957-58 and 1958-59 editions, and of *Thermopylae* and *Truncheon* in the 1957-58 and earlier editions.

Recent Disposals
Tradewind was scrapped in 1956. *Taurus* and *Thorough* were approved to be scrapped in 1958 and are awaiting tow to the shipbreakers or disposal otherwise as targets.
Telemachus was scrapped in 1960 and *Tally Ho* is also for disposal after use as a harbour training boat and floating classroom for young submariners.

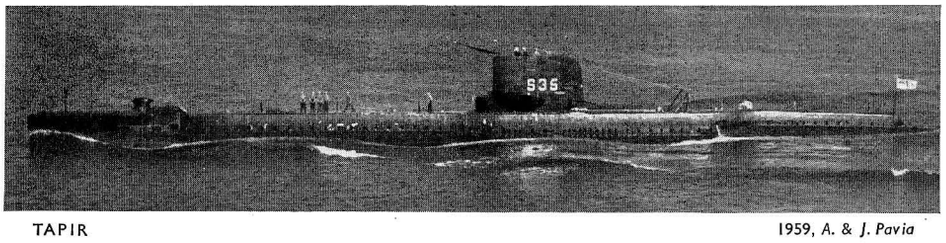
Pen. No.	Name	Laid down	Launched	Completed
S 42	*Tabard*	6 Sep. '44	21 Nov. '45	25 June '46
S 34	*Taciturn*	9 Mar. '43	7 June '44	7 Oct. '44
S 14	*Tactician*	13 Nov. '41	29 July '42	29 Nov. '44
S 37	*Talent*	21 Mar. '44	13 Feb. '45	26 July '45
S 35	*Tapir*	29 Mar. '43	21 Aug. '44	30 Dec. '44
S 38	*Teredo*	17 Apr. '44	27 Apr. '45	5 Apr. '46
S 55	*Thermopylae*	26 Oct. '43	27 June '45	5 Dec. '45
S 25	*Thule*	20 Sep. '41	22 Oct. '42	13 May '44
S 32	*Tiptoe*	10 Nov. '42	25 Feb. '44	13 June '44
S 77	*Tireless*	30 Oct. '41	19 Mar. '43	18 Apr. '45
S 28	*Token*	6 Nov. '41	19 Mar. '43	15 Dec. '45
S 52	*Totem*	22 Oct. '42	28 Sep. '43	9 Jan. '45
S 31	*Trenchant*	9 May '42	24 Mar. '43	26 Feb. '44
S 12	*Trespasser*	8 Sep. '41	29 May '42	25 Sep. '42
S 33	*Trump*	31 Dec. '42	25 Mar. '44	9 July '44
S 53	*Truncheon*	5 Nov. '42	22 Feb. '44	25 May. '45
S 126	*Tudor*	20 Sep. '41	23 Sep. '42	16 Jan. '44
S 54	*Turpin*	24 May '43	5 Aug. '44	18 Dec. '44



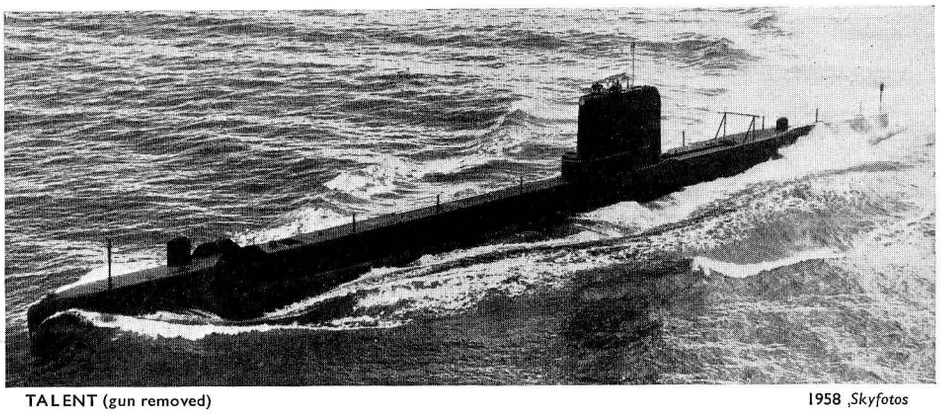
TOTEM — 1960, *Official*



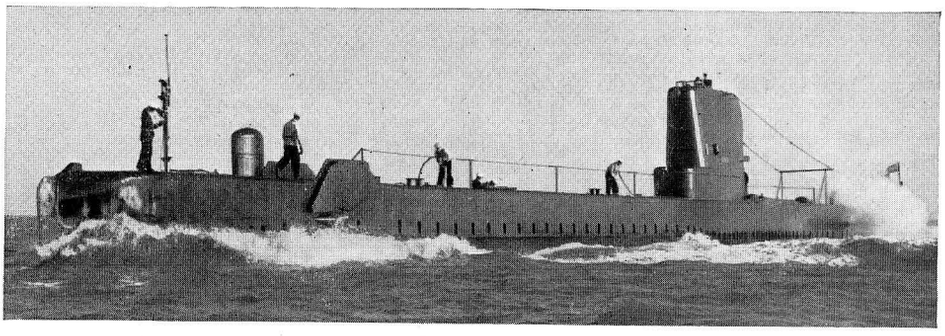
TRENCHANT — 1959 *Wright & Logan*



TAPIR — 1959, *A. & J. Pavia*



TALENT (gun removed) — 1958 *Skyfotos*



TEREDO — *Added* 1958, *Wright & Logan*

6 "S" Class

3 *Cammell Laird & Co. Ltd., Birkenhead*
SCORCHER
SEA SCOUT
SOLENT

2 *Scotts S.B. & Eng. Co. Ltd., Greenock*
SCOTSMAN
SENTINEL

1 *Vickers-Armstrongs, Ltd. Barrow-in-Furness*
SERAPH (ex-*P* 219)

Displacement:	715 tons *standard*, 814 tons *surface*, 1,000 tons *submerged*
Dimensions:	202½ (*pp.*), 217 (*o.a.*) × 23¾ × 10½ (*mean*) feet
Guns:	Removed
Tubes:	6—21 inch (bow), earlier units 7, including 1 external. 13 torpedoes carried
Machinery:	Diesels, B.H.P.: 1,900=14·7 kts. *surface* Electric motors, H.P.: 1,300=9 to 12 kts. *submerged*
Oil Fuel:	44 to 87 tons.
Complement:	48

General Notes

Very handy craft, capable of making a "crash-dive" in 30 seconds. Later units have slightly higher freeboard forward, some had 3 inch instead of 4 inch gun.

Reconstruction Notes

Scotsman was refitted, in 1960, with a complete bow of fibre glass.

Protection Notes

Seraph is lightly armoured for protection against the impact of practice torpedoes.

Appearance Notes

Scotsman and others have been modified for experimental purposes. *Scorcher*, *Sea Scout*, *Sentinel* and *Seraph* have been modernised by removal of the gun and fitting of Snort, etc.

Class Notes

In 1948, *Saga*, *Spearhead* and *Spur* were sold to the Portuguese Navy. *Satyr*, *Spiteful*, *Sportsman* (lost 23 Sep. 1952) and *Statesman* were transferred to French Navy, Oct. 1951, to July 1952; but *Spiteful* (on loan since Jan. 1952, under the name *Sirene*) was returned to the Royal Navy by the French Navy at Gosport on 24 Oct. 1958, since when she has been in service with a new pennant number, but she is scheduled to be disposed of in the near future; and *Statesman* (on loan under the name *Sultane*) was returned to the Royal Navy by the French Navy at Rosyth on 5 Nov. 1959, but she is also earmarked to be scrapped in 1960.

The following units were cancelled at the end of the Second World War: *Sea Robin*, *Sprightly*, *Surface*, *Surge*.

Second World War losses: *Sahib*, *Saracen*, *Sickle*, *Simoon*, *Stonehenge*, *Stratagem*, *Syrtis*, *Splendid*, *P* 222.

Experimental Notes

Solent is attendant on *Scotsman* for experiments.
Sirdar, laid up in the Forth for over five years, is being expended in experiments by the Naval Construction Research Establishment, at Rosyth.

Photograph Notes

Photographs of *Scotsman* before refit, and of *Scythian* and *Seneschal* appear in the 1959-60 edition.

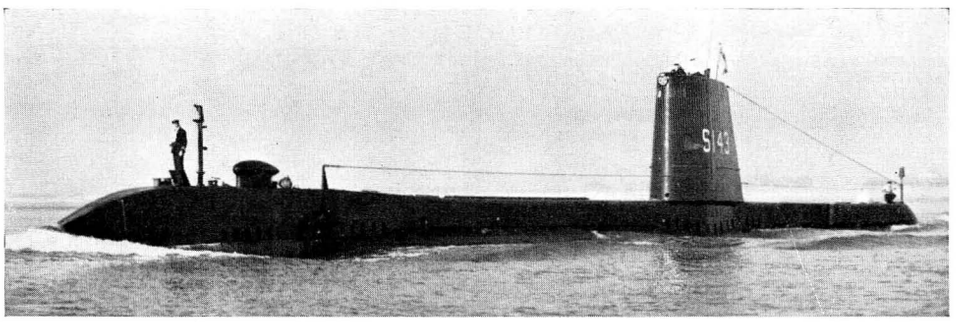
Transfer Notes

Sanguine and *Springer* have been sold to Israel. *Springer* was handed over to the Israeli Navy at Portsmouth on 9 Oct. 1958 and renamed *Tanin* (Crocodile).

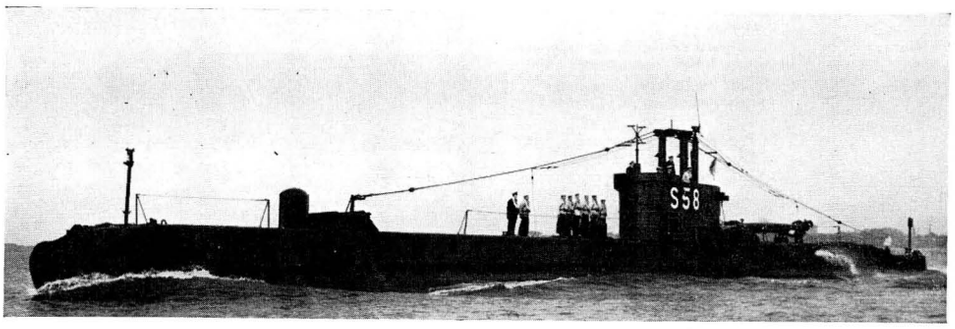
Recent Disposals

Sidon, which sank after a torpedo explosion forward in Portland Harbour, 16 June 1955, but was salved a week later, after which she was placed in unmaintained reserve, was towed out of Portland Harbour and sunk off Portland on 14 June 1957 in 20 to 25 fathoms to be used by the Navy as a target on the sea bottom. *Selene* was discarded in 1957 and is awaiting disposal. *Slueth*, *Sturdy* and *Subtle* were scrapped in 1958. *Seneschal* and *Scythian* were scrapped in 1960. *Spiteful* (*Sirene*) and *Statesman* (*Sultane*), returned from the French Navy, are also to be disposed of by scrapping, and *Sea Devil* is also for disposal in 1960.

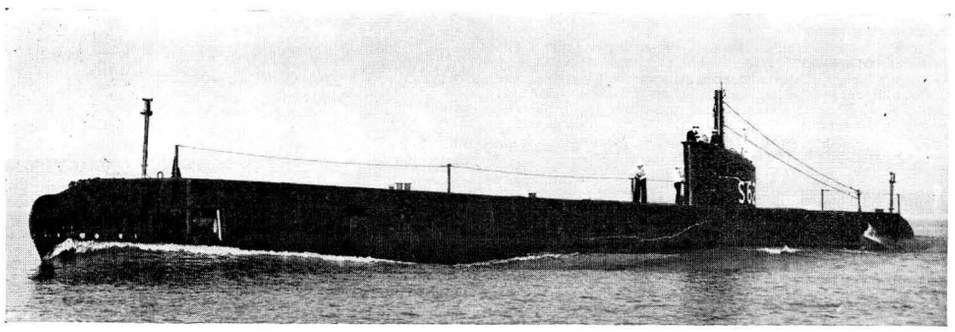
Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
S 58	*Scorcher*	14 Dec. '43	18 Dec. '44	16 Mar. '45
S 143	*Scotsman*	15 Apr. '43	18 Aug. '44	9 Dec. '44
S 153	*Sea Scout*	1 Apr. '43	24 Mar. '44	19 June '44
S 56	*Sentinel*	15 Nov. '43	27 July '45	28 Dec. '45
S 89	*Seraph*	16 Aug. '40	25 Oct. '41	10 June '42
S 62	*Solent*	7 May '43	8 June '44	7 Sep. '44



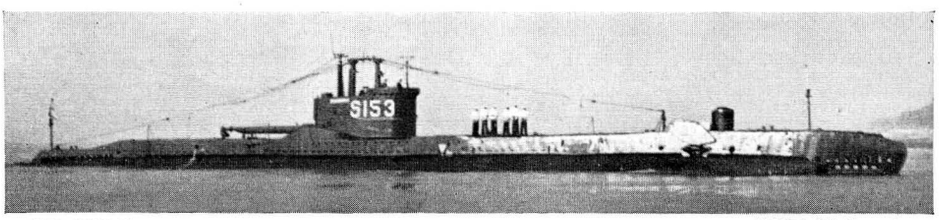
SCOTSMAN (after refit, with new bow) — 1960, *Wright & Logan*



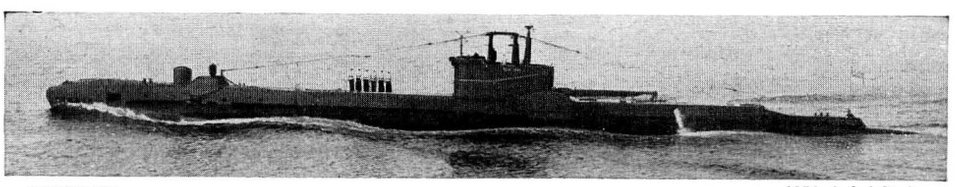
SCORCHER — 1960, *Wright & Logan*



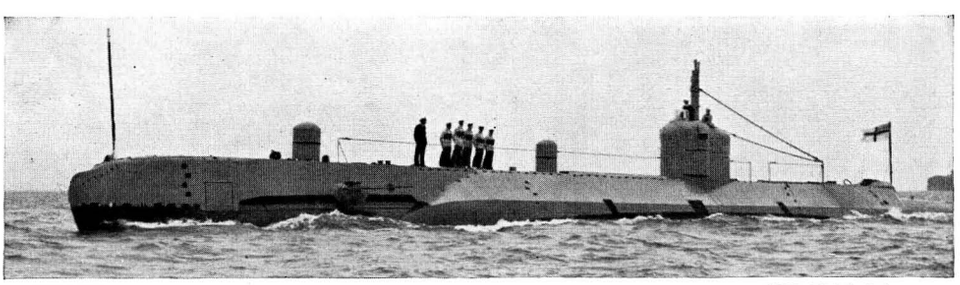
SOLENT — 1960, *Wright & Logan*



SEA SCOUT — 1959, *J. W. Kennedy*



SENTINEL — 1956, *A. & J. Pavia*



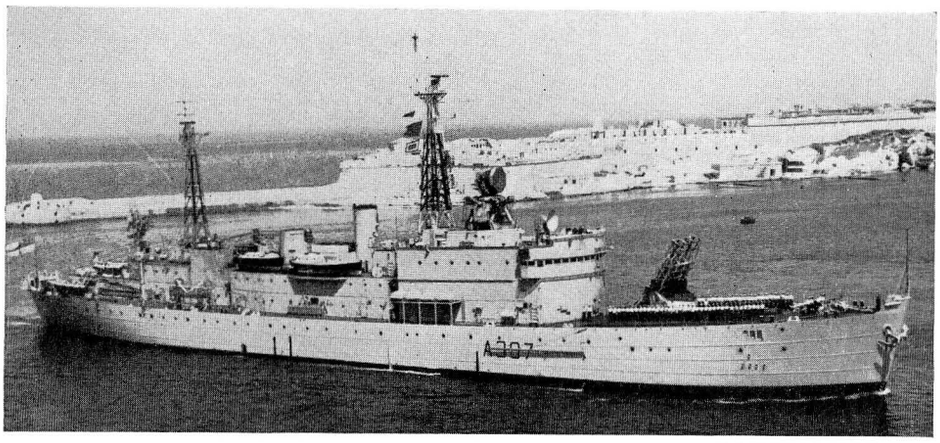
SERAPH — 1955, *Wright & Logan*

GUIDED WEAPONS TRIALS SHIP

1 Converted Maintenance Type

GIRDLE NESS

Pennant No.:	A 387
Builders:	Burrard Dry Dock Co. Ltd., North Vancouver, B.C.
Ordered:	1 May 1944
Laid down:	7 Dec. 1944
Launched:	29 Mar. 1945
Completed:	5 Sep. 1945
Accepted:	6 Sep. 1945
Converted:	24 July 1956 (see *Notes*)
Displacement:	8,580 tons *standard* (10,200 tons *full load*)
Dimensions:	441 (*o.a.*) × 57 × 20 feet
Guided weapons:	1 triple launcher for "Seaslug"
Machinery:	Triple expansion. 1 shaft. I.H.P.: 2,500 = 10 kts. (*max.*)
Complement:	400 (normal), accommodation for 616 (for trials). In Apr. 1959 the complement was 30 officers, 20 members of the Royal Naval Scientific Service and 380 ratings



GIRDLE NESS — *Added* 1959, *A. & J. Pavia*

General Notes

Former Landing Craft Maintenance Ship converted to a guided weapons trials ship in H.M. Dockyard, Devonport, Oct. 1953—July 1956. Commissioned for service 24 July. Began tests 1 Sep. 1956. Recommissioned at Devonport on 28 Apr. 1959 for a new series of trials in the Mediterranean, starting in June, while based on Malta.

Guided Weapon Notes

The guided weapon equipment consists of radars, displays and communications equipment to enable a target to be selected and to control the missiles in flight, magazines and handling gear for stowing and transporting the missiles, and the launcher.

The ship has carried out firings and extensive tests of the "Seaslug," the Royal Navy's medium range anti-aircraft guided missile.

The civilian scientists embarked operate the instruments installed to record data obtained from trials planned jointly by the Admiralty and the Ministry of Supply and other interested parties.

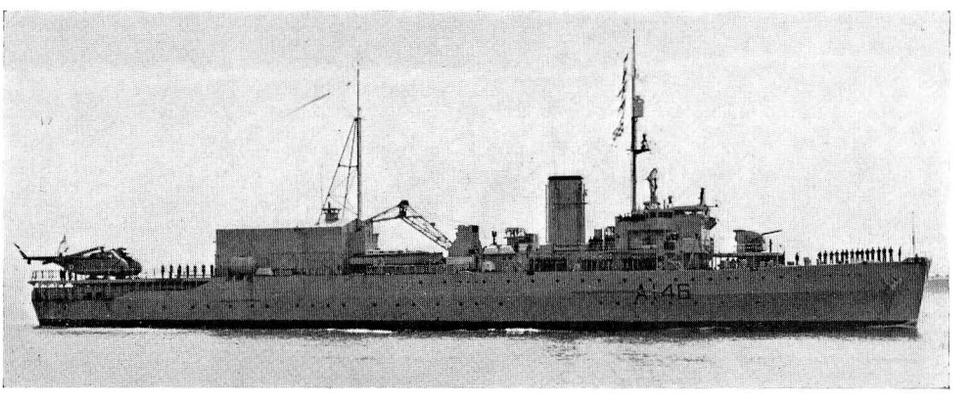
Photograph Notes

Larger port broadside and starboard quarter views of this ship in the 1957-58 (Diamond Jubilee) edition. Aerial oblique (starboard quarter) view in the 1958-59 edition.

ICE PATROL SHIP (ex-Netlayer)

PROTECTOR

Pennant No.:	A 146
Builders:	Yarrow & Co. Ltd., Scotstoun
Laid down:	15 Aug. 1935
Launched:	20 Aug. 1936
Completed:	31 Dec. 1936
Converted:	10 May 1955 (see *Notes*)
Displacement:	3,000 tons *standard* (3,690 tons *full load*)
Dimensions:	310 (*pp.*), 338 (*o.a.*) × 53 × 11½ (*mean*) 15 (*max.*) feet
Guns:	2—4 inch (twin mount), 4—20 mm. Oerlikon AA., 4—3 pdr. saluting
Aircraft:	2 helicopters
Machinery:	Parsons geared turbines. S.H.P.: 9,000 = 20 kts. (Re-engined in 1945 with British Thomson-Houston geared turbines)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	690 tons
Complement:	238



PROTECTOR — 1960, *Keith Long*

General Notes

Originally designed for netlaying and target towing. Ordered under 1934 Estimates. Handier and faster ship than *Guardian*, her design embodying experience gained with that vessel. She had greater lifting power for dealing with nets.

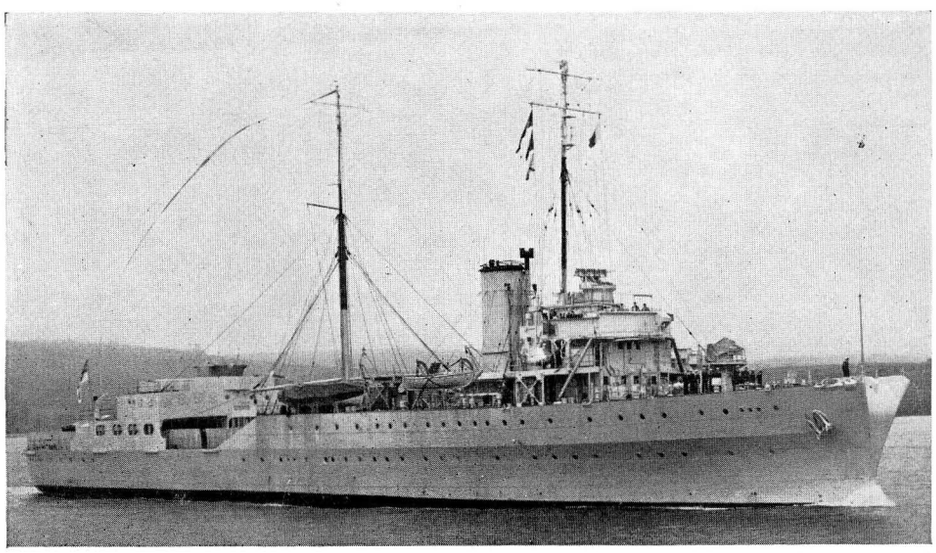
Conversion Notes

Refitted in 1955 for service in the Falkland Islands Dependencies with helicopter hangar, landing deck aft, enclosed bridge and enclosed look-out. The 4-inch guns were mounted forward instead of aft and 4—20 mm. were suppressed. Strengthened against ice. Employed in lieu of a frigate, as a guardship and Antarctic survey ship. Refitted in 1957 with remodelled bridge, etc. Refitted in 1958 with small tripod mainmast stepped on the hangar, and crane amidships, etc. Officially reclassified as Ice Patrol Ship in 1959.

NETLAYER

GUARDIAN

Pennant No.:	A 145
Builders:	H.M. Dockyard, Chatham
Laid down:	15 Oct. 1931
Launched:	1 Sep. 1932
Completed:	13 June 1933
Displacement:	2,860 tons *standard* (3,665 tons *full load*)
Dimensions:	310 (*pp.*), 338 (*o.a.*) × 53 × 11⅛ (*mean*) 15 (*max.*) feet
Guns:	2—4 inch AA., 6—20 mm. AA., 6 Lewis M.G.
Machinery:	Parsons geared turbines by Wallsend Co. S.H.P.: 6,500 = 18 kts. (*designed*), now 16 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	720 tons
Complement:	181



GUARDIAN — 1958, *Arcadian Photos*

General Notes

Designed for Netlaying and Fleet Photography. The nets, sinkers and buoys were stowed to port and starboard, on upper deck from just forward of the main-mast under the forecastle deck to the stern. The structure aft, placed on the deck spanning the nets, is the photographic cabin. Now in the Reserve Fleet.

Construction Notes

This ship is very beamy in relation to her length, the ratio being 1 : 6 only.

OCEAN MINESWEEPERS (Anti-Submarine Escorts)

11 "Algerine" Class

(Corvette Type)

8 *Harland & Wolff Ltd., Belfast*

ACUTE
CHAMELEON
CHEERFUL
ESPIEGLE
JEWEL
MUTINE
RECRUIT
RIFLEMAN

1 *Fleming & Ferguson Ltd., Paisley*

COCKATRICE

2 *Lobnitz & Co.. Ltd., Renfrew*

NIGER
WATERWITCH

Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 × 35½ × 10 feet
Guns:	1—4 inch, 4—40 mm. Bofors AA. *Acute* and *Jewel* have no 40 mm.
A/S weapons:	1 squid triple-barrelled depth charge mortar in *Chameleon, Espiegle, Mutine, Recruit, Rifleman* and *Waterwitch*, instead of 4-inch gun, see photo. Others 2 or 4 D.C.T.
Machinery:	Geared turbines in Harland & Wolff ships; triple expansion in others. 2 shafts. H.P.: 2,000 (*Niger* I.H.P.: 2,400)=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	95 (peace); 138 (war)

General Notes

Largest minesweepers in the Royal Navy. Frequently used as escort vessels, and several are now refitted and re-armed as anti-submarine corvettes. *Acute* and *Jewel* are employed on trials and training in the Dartmouth Squadron. *Wave (Leader), Bramble, Hound, Lennox, Orestes* and *Welcome* constituted the Fishery Protection Squadron; but the *Bramble, Lennox, Orestes* and *Welcome* were withdrawn early in 1958, the *Wave* late in 1958, and the *Hound* in 1959, and replaced by "Blackwood" class frigates.

Appearance Notes

Squid in *Chameleon, Espiegle, Mutine, Recruit, Rifleman* and *Waterwitch* instead of 4-inch gun. *Fierce*, employed as Senior Officer's ship of Minesweeping flotillas, had extra deckhouse aft. *Acute* and *Jewel* now have deckhouse in place of after AA. guns.

Photograph Notes

Photographs of *Pluto* and *Rifleman* appear in the 1957-58 edition.

Class Notes

Brave and *Circe* (now hulks) were allocated as Royal Naval Reserve drillships for the Tyne and Tay Divisions, respectively. *Niger* was employed as a Minesweeping Headquarters ship in 1949.

Transfer Notes

Minstrel was sold to Thailand and renamed *Phosamton*. *Pelorus* and *Rosamund* were sold to the South African Navy in 1947 and renamed *Pietermaritzburg* and *Bloemfontein*, respectively. *Arcturus, Aries, Gozo, Lightfoot* and *Postillion* were transferred to Royal Hellenic Navy and renamed *Pirpolitis, Armatolos, Polemistis, Navmachos* and *Mahitis*, respectively. *Fly* was transferred to the Iranian Navy in 1949 and renamed *Palang*. *Flying Fish* was transferred to the Ceylon Navy in Sept. 1949 and renamed *Vijaya*. *Cadmus, Fancy, Liberty, Ready, Rosario* and *Spanker* were transferred to the Belgian Navy in 1949-53 and renamed *Georges Lecointe, A. F. Dufour, Adrien de Gerlache, Jan van Haverbeke, De Moor* and *De Brouwer*, respectively. *Larne* was transferred to Italy and renamed *Alabarda*.

Mariner was acquired by the Burmese Navy in 1957 and after refit was officially transferred on 18 April 1958 and renamed *Yan Myo Aung*.

Pickle was handed over to the Royal Ceylon Navy at Plymouth on 6 Apr. 1959 and renamed *Parakrama*.

Hare was presented to the Royal Nigerian Navy at Portsmouth on 21 July 1959, and renamed *Nigeria*. *Bramble* and *Tanganyika* may be sold to the Dominican Republic.

War losses: *Alarm, Algerine, Loyalty, Regulus, Squirrel, Vestal*.

Cancelled ships: *Happy Return, Nicator, Nox, Styx*.

Scrapped: *Fantome, Mameluke, Prompt, Hydra, Octavia* and *Felicity*.

Recent Disposals

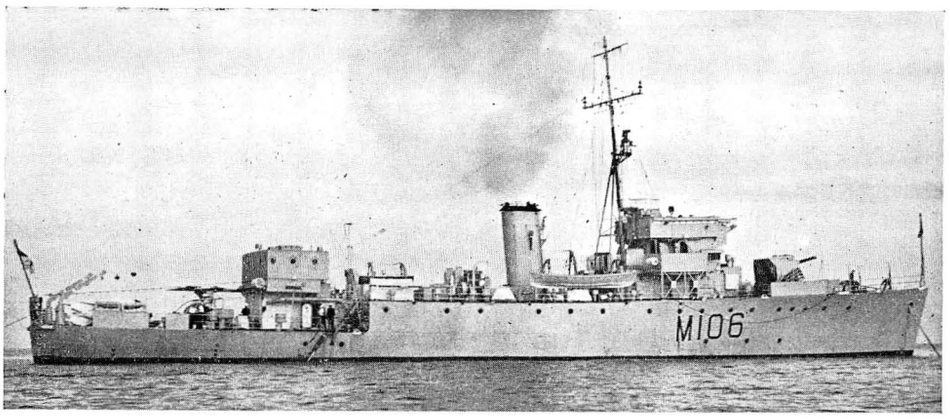
Jaseur and *Magicienne* were scrapped in 1956. *Lioness, Michael, Polaris* and *Pyrrhus* were scrapped in 1957.

Coquette, Lysander, Maenad, Mandate, Marvel, Mary Rose, Moon, Myrmidon, Mystic, Orcadia, Providence, Rattlesnake, Serene, Thisbe, Truelove and *Welfare* were stricken from the Navy List in 1958 to be scrapped or sold.

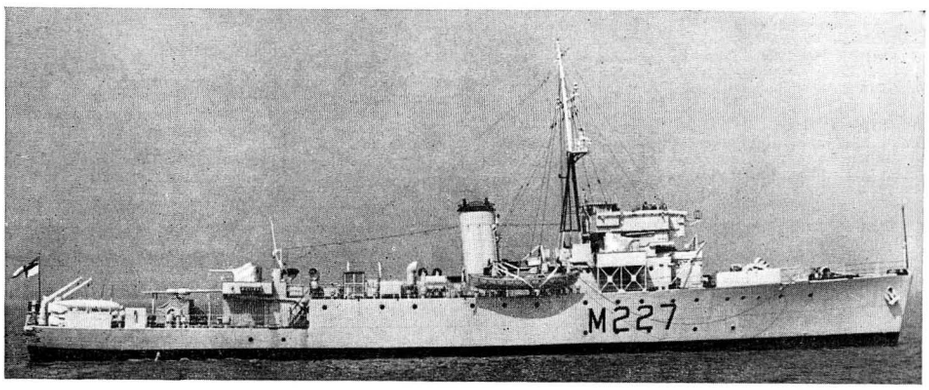
Laertes, Marmion, Melita, Ossory, Romola, Rowena, Seabear, Skipjack and *Sylvia* were scrapped in 1959. *Courier, Fierce* and *Stormcloud* were scrapped in 1960, and *Albacore, Bramble, Golden Fleece, Hound, Lennox, Nerissa, Onyx, Orestes, Pluto, Rinaldo, Tanganyika, Wave* and *Welcome* will be sold in the near future.

Pincher and *Plucky* are now used as fender ships. They are little more than hulks and will eventually be sold for scrap.

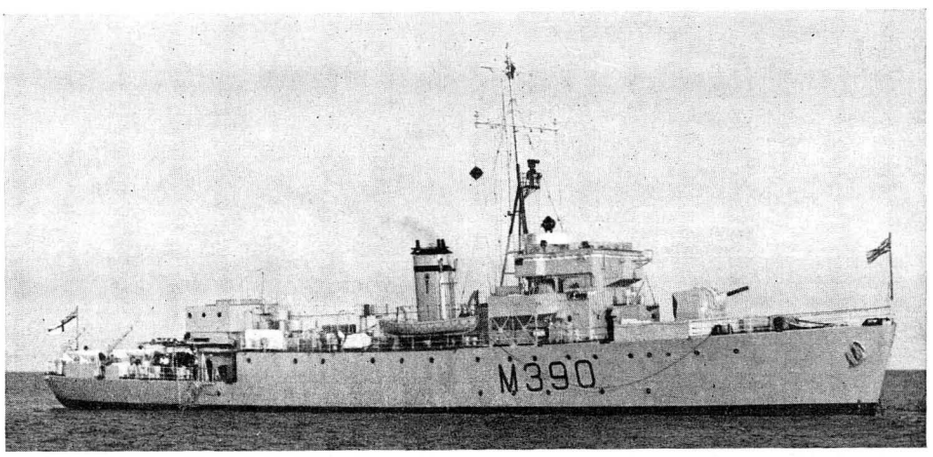
Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
M 106	*Acute*	24 July '41	14 Apr. '42	30 July '42
M 387	*Chameleon*	20 Aug. '43	6 May '44	14 Sep. '44
M 88	*Cheerful*	20 Aug. '43	22 May '44	13 Oct. '44
M 29	*Cockatrice*	29 Dec. '41	27 Oct. '42	10 Apr. '43
M 216	*Espiegle*	5 Feb. '42	12 Aug. '42	1 Dec. '42
M 390	*Jewel*	27 Nov. '43	20 July '44	9 Dec. '44
M 227	*Mutine*	24 Nov. '41	10 Oct. '42	26 Feb. '43
M 73	*Niger*	5 Nov. '44	1 May '45	21 Sep. '45
M 298	*Recruit*	20 Apr. '43	26 Oct. '43	14 Jan. '44
M 299	*Rifleman*	20 Apr. '43	25 Nov. '43	11 Feb. '44
M 304	*Waterwitch*	15 Aug. '42	22 Apr. '43	6 Aug '43



ACUTE (gun forward, deckhouse aft) 1960, *courtesy Godfrey H. Walker, Esq.*



MUTINE (squid forward) 1959, *Official*

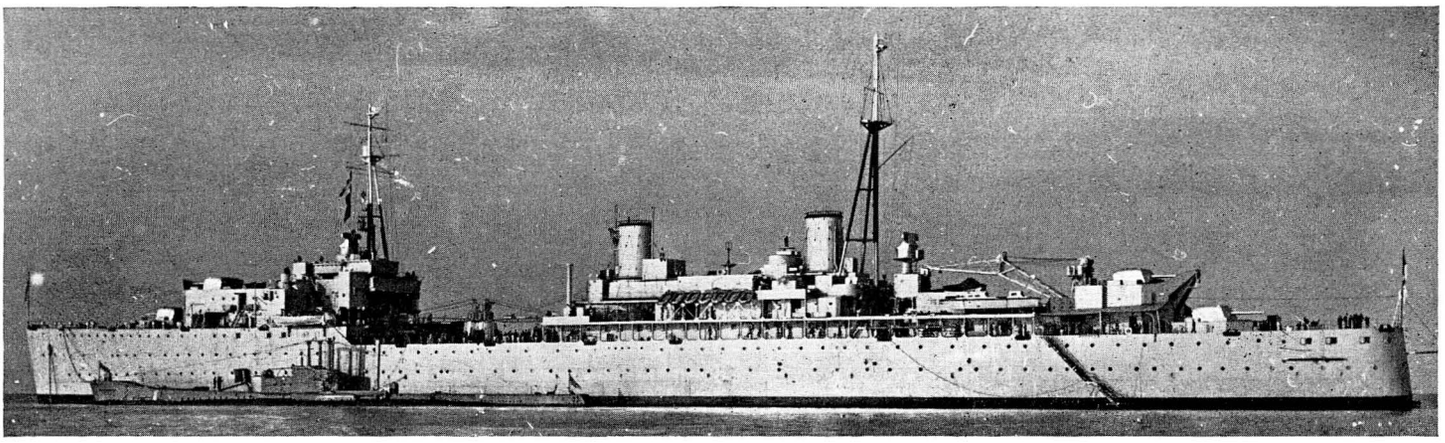


JEWEL (deckhouse aft) 1959, *courtesy Godfrey H. Walker, Esq.*



NERISSA (gun forward) 1958 *Skyfotos*

SUBMARINE DEPOT SHIPS



ADAMANT

Added 1957, courtesy B. L. Devenish-Meares, Esq.

1 " Adamant " Class

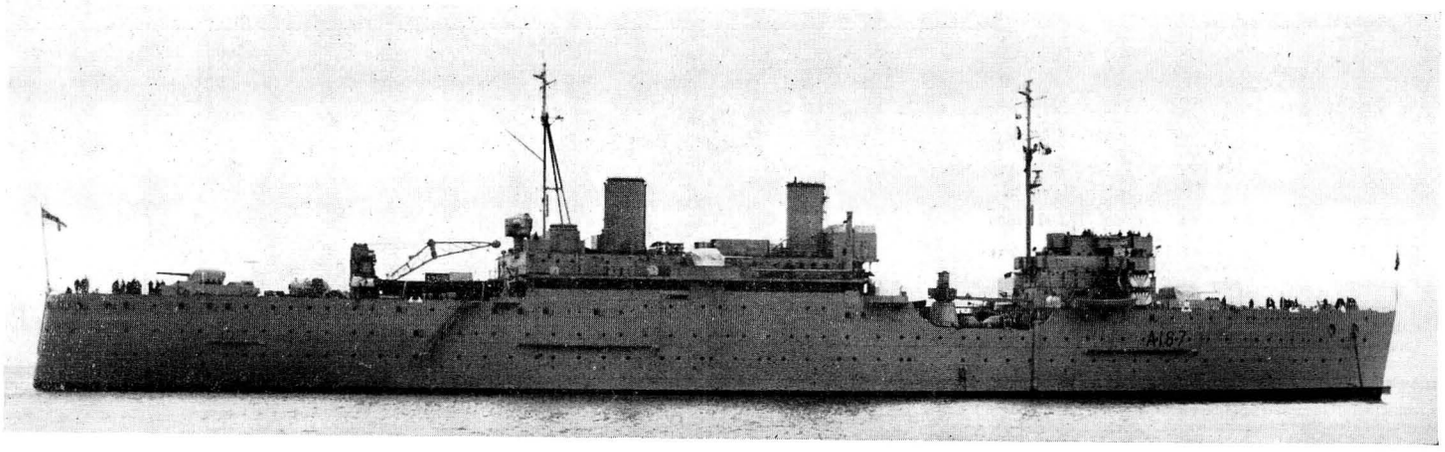
ADAMANT

Pennant No.:	A 164
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	18 May 1939
Launched:	30 Nov. 1940
Completed:	28 Feb. 1942

Displacement:	12,700 tons *standard* (16,500 tons *full load*)
Dimensions:	646 (*pp.*), 658 (*o.a.*) × 70½ × 20 feet
Guns:	8—4·5 inch, 16—2 pdr., 8—20 mm., 4—3 pdr.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 8,000=17 kts.
Boilers:	4 of 3-drum type
Oil fuel:	2,600 tons
Complement:	520

Notes

Submarine Parent Ship. Ordered under 1938 Estimates, Equipment includes a foundry, fitters', patternmakers', coppersmiths', and shipwrights' shops; light and heavy machine shops; torpedo and electrical shops; and submarine repair facilities of all kinds. Has accommodation for the complements of a squadron of submarines. When originally built she had facilities for nine submarines. Now, due to the increased accommodation required for extra technical staff to maintain modern equipment, she handles six submarines.



FORTH

1960, *Giorgio Arra*

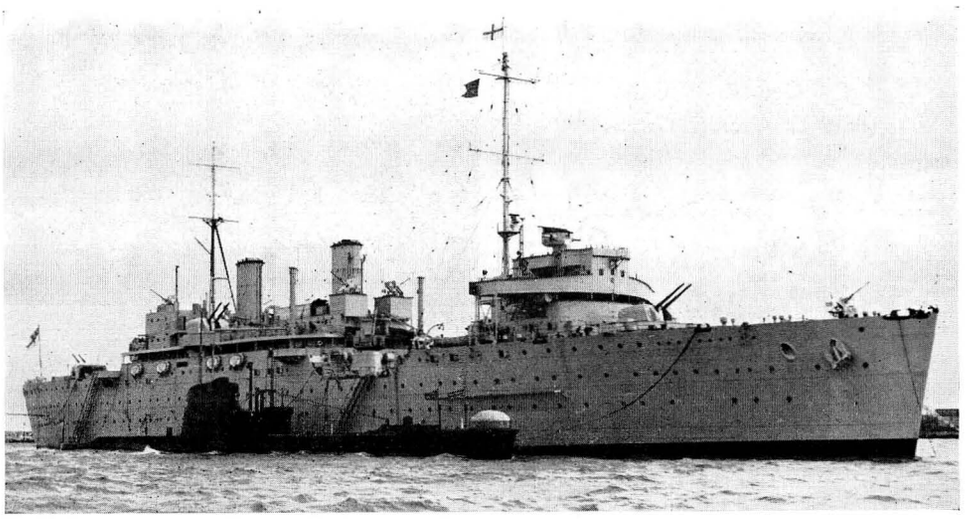
2 " Maidstone " Class

	FORTH	**MAIDSTONE**
Name:	*Forth*	*Maidstone*
Pennant No.:	A 187	A 185
Builders:	John Brown & Co. Ltd., Clydebank.	John Brown & Co. Ltd., Clydebank.
Laid down:	30 June 1937	17 Aug. 1936
Launched:	11 Aug. 1938	21 Oct. 1937
Completed:	14 May 1939	5 May 1938

Displacement:	*Forth:* 9,100 tons *standard* (12,700 tons *full-load*) *Maidstone:* 9,000 tons *standard* (12,380 tons *full-load*)
Dimentions:	497 (*pp.*). 530¾, *Forth* 531, (*o.a.*) × 73 × 20 (*mean*) feet (*Maidstone* draws 19¼ feet forward, 20⅝ feet aft)
Guns:	*Forth:* 8—4·5 inch, 2 multiple pompoms, 4—3 pdr., 4 smaller *Maidstone:* 8—4·5 inch dual purpose (twin) 5—40 mm. AA. Bofors
Machinery:	*Forth:* Brown-Curtis geared turbines. 2 shafts. S H.P.,: 7,000=17 kts. *Maidstone:* Parsons geared turbines. 2 shafts. S.H.P.: 7,000=16 kts. (*max.*)
Boilers:	4 Admiralty 3-drum type
Oil fuel:	2,300 tons
Complement:	502 (including 64 repair staff and 43 as spare submarine crew) *Maidstone* has accommodation for 119 officers and 1,040 men

General Notes

Parent Ships for Submarines. *Maidstone* was ordered on 17 Aug. 1936 under 1935 Estimates. *Forth* laid down under 1937 Estimates. Guns are in pairs, two forward, two aft and two sponsoned on either beam. Equipment includes a foundry; coppersmiths', plumbers' and carpenters' shops; heavy and light machine shops; electrical and torpedo repair shops; and plant for charging submarine batteries. Designed for looking after nine operational submarines, and capable of supplying over 100 torpedoes and a similar number of mines when required. Besides large workshops there are repair facilities on board for all material in the attached submarines, and extensive diving and salvage equipment is carried. There are steam laundry, cinema, hospital, chapel, two canteens, bakery, barber shop, fully equiped operating theatre and dental surgery. *Maidstone* was the Flagship of the Commander-in-Chief Home Fleet from 16 Aug. 1956 until 31 Mar. 1958. Extensively refitted in 1959-60 with a lattice foremast.



MAIDSTONE

1960 ,*Official*

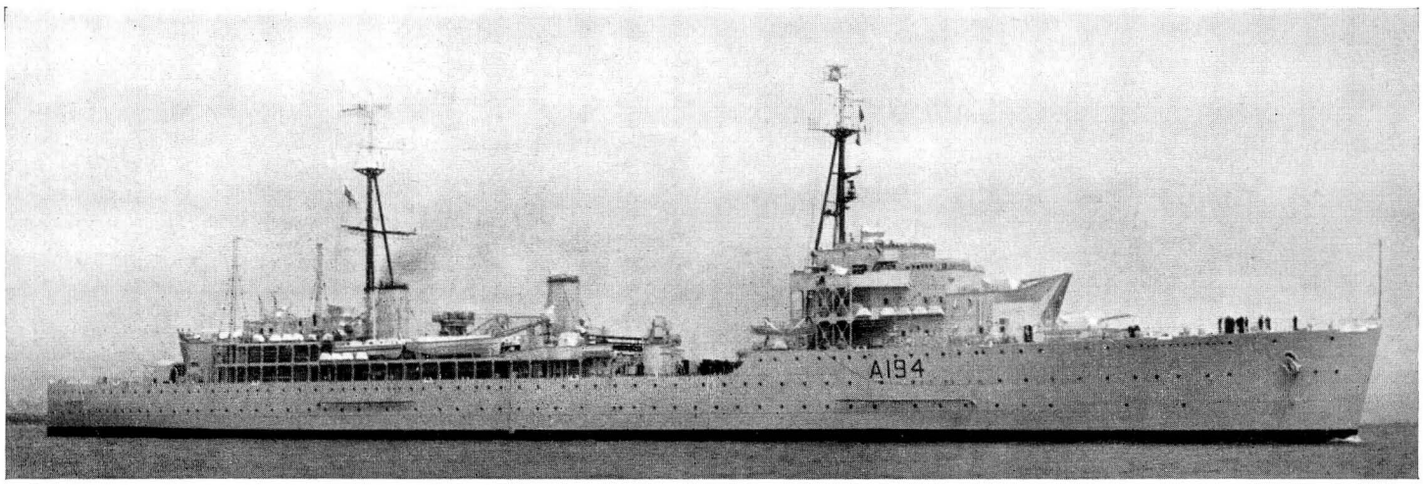
Appearance Note

Maidstone has light AA. gun in bows. She carried a 4-inch gun on a submarine pattern mounting, for training purposes only, on the starboard side just aft of the midships 4·5 inch turret.

Recent Disposal

The submarine depot ship *Montclare*, discarded in 1956, was towed away from Portsmouth on 29 Jan, 1958 to be broken up at Inverkeithing.

DESTROYER DEPOT SHIPS



TYNE (after refit as flagship, with remodelled bridge, etc.) 1958, *Wright & Logan*

1 "Tyne" Class

TYNE

Pennant No.: A 194
Builders: Scott's S.B. & Eng. Co. Ltd., Greenock
Laid down: 15 July 1938
Launched: 28 Feb. 1940
Completed: 28 Feb. 1941

Displacement: 11,000 tons *standard* (14,600 tons *full load*)
Dimensions: 621 (*o.a.*) × 66 × 20 feet
Guns: 8—4·5 inch, 7—40 mm. AA.
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 7,500 = 17 kts.
Boilers: 4, of 3-drum type
Oil fuel: 1,400 tons
Complement: 520 (normal) as destroyer depot ship. 820 as flagship. Accommodation allows for 1,000.

Notes

Depot ship for destroyers. Built under 1937 Estimates. Equipment includes two furnaces, each capable of melting 500 lb. of metal at any temperature up to 1,500 degrees centigrade; a foundry and machine shops with milling and grinding machines. Refitted from late 1956 to early 1958 with enclosed lower bridge and improved operations room and internal arrangements, etc., seven 40mm. guns replacing former smaller anti-aircraft guns. Was Flagship of Home Fleet from Autumn 1954 to August 1956, and again from April 1958 to date. Also parent ship of the 2nd Submarine Squadron.

1 "Woolwich" Class

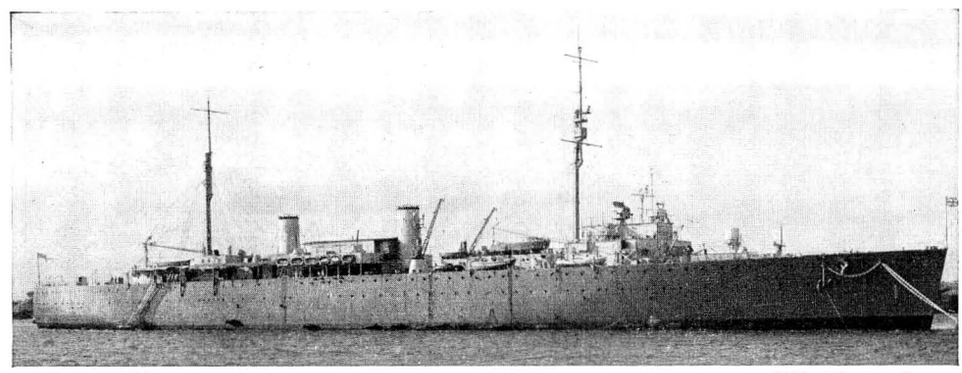
WOOLWICH

Pennant No.: A 180
Builders: Fairfield Shipbuilding & Eng. Co. Ltd., Govan
Laid down: 24 May 1933
Launched: 20 Sep. 1934
Completed: June 1935

Displacement: 8,750 tons *standard* (9,500 tons *full load*)
Dimensions: 575 × 64 × 14¾ (*mean*) 16½ (*max.*) feet
Guns: 12—40 mm. AA.
Machinery: 2 sets single reduction geared turbines. 2 shafts. S.H.P.: 6,500 = 15 kts.
Boilers: 4 Admiralty 3-drum type
Oil-fuel: 1,170 tons
Complement: 406

Notes

Depot ship for destroyers. Authorised under the 1932 Estimates. Carries a full equipment of machine tools of the latest type. Fitted with two 3-ton cranes, one 20-ton derrick, and one 6-ton derrick. Headquarters Ship for the Plymouth Division, Reserve Fleet.



WOOLWICH 1951, *C. Parsons, Esq.*

HEAVY REPAIR SHIPS

1 "Colossus" Class
(Former *Aircraft Carrier*)

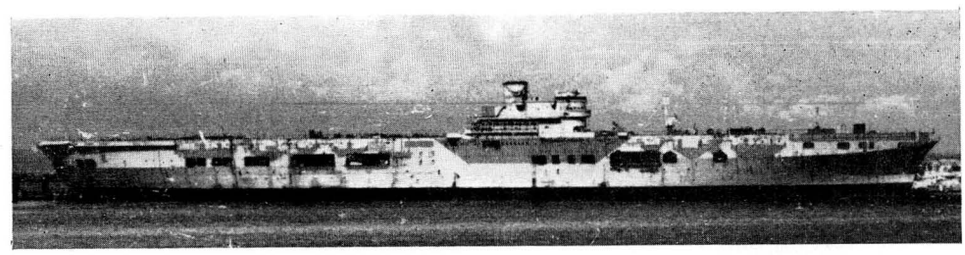
TRIUMPH

Pennant No.: R 16 (as Aircraft Carrier)
Builders: R. & W. Hawthorn, Leslie & Co., Ltd., Hebburn-on-Tyne
Laid down: 27 Jan. 1943
Launched: 2 Oct. 1944
Completed: 9 Apr. 1946
Converted: 1959-60

Displacement: 13,350 tons *standard* (18,300 tons *full load*)
Dimensions: Length: 630 (*pp.*), 695 (*o.a.*), feet. Beam: 80 feet. Width: 112½ (*o.a.*) feet Draught: 21½ (*mean*), 23½ (*max.*) feet. Flight deck: 690 feet long, 80 feet wide, 39 feet above water line. Dimensions of hangar: Length: 445 feet. Width: 52 feet. Clear depth: 17½ feet
Guns: At present unarmed
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 42,000 = 25 kts. (24·25 kts. sea speed)
Boilers: 4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel: 3,000 tons
Radius: 12,000 miles at 14 kts.
Complement: 1,076 (*peace*), 1,300 (*war*)

General Notes

Insulated for tropical service and partially air-conditioned. When she was still an aircraft carrier her accommodation was modified in 1953 to fit her for employment as officer cadets' training ship, but she is being converted into a heavy repair ship under the 1956-57 Estimates, and her sponsons have been removed.



TRIUMPH (under conversion) *Added* 1960 (*Photo* 1959)

Constructional Notes

As an aircraft carrier the flight deck was strengthened to take aircraft of over 8 tons in weight. Sponsons could be dismantled to the extent of 3½ feet on either side if necessary to allow for passage through Panama Canal. Mercantile type hull. Built to Lloyd's specifications up to main deck with the original intention of converting to commercial service after the war. Damage control: No great measure of vertical subdivision on the sandwich system as it was reckoned that it is better for ships to settle evenly in the event of damage and flooding than to foster capsizing.

Engineering Notes

Engines and boilers are arranged *en echelon*, one set of turbines and two boilers being installed side by side in each of the two main propelling machinery spaces, on the unit system.

Appearance Notes

Distinguished from aircraft carriers by generally lighter appearance and thin funnel and distinctive shape of ship's side forward.

Class Notes

Of her original sister aircraft carriers, the *Venerable* (renamed *Karel Doorman*) was sold to Netherlands in 1948, *Colossus* (renamed *Arromanches*) was sold to France in 1951; and two were completed as maintenance aircraft carriers *Perseus* (scrapped in 1958) and *Pioneer* (scrapped in 1954), *Vengeance* was lent to the Royal Australian Navy early in 1953, but was returned to the Royal Navy in August 1955, and sold to the Brazilian Government in 1956 (announced by Admiralty 14 Dec.); she is being modernised and will be commissioned under the name *Minas Gerais*. *Warrior* was sold to the Argentine Government in July 1958 and she was commissioned under the name *Independencia* in Jan. 1959.

Photograph Notes

A photograph of *Triumph* before conversion appears in the 1958-59 and 1959-60 editions.

Recent Disposals

Sister ships *Glory*, *Ocean* and *Theseus* are surplus to fleet requirements, having been laid up or earmarked for sale or breaking up.

Half-sister *Perseus*, also *Unicorn*, were scrapped in 1958-59. (*Unicorn* arrived at Dalmuir on 15 June, 1959.)

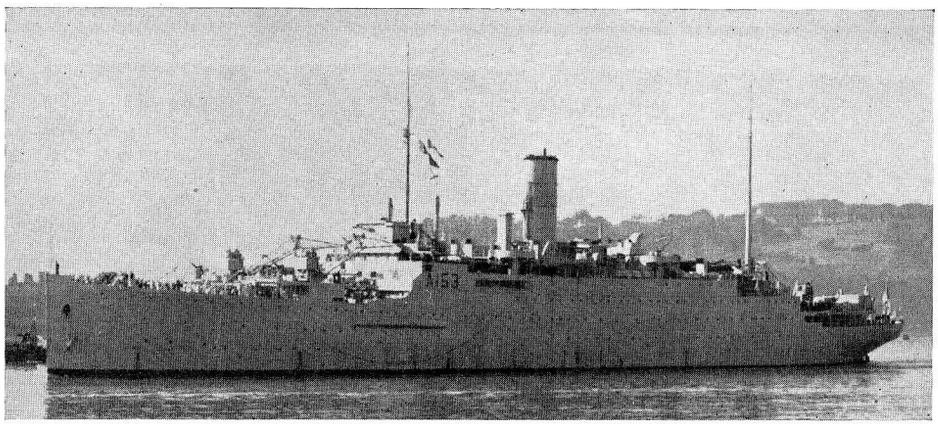
Heavy Repair Ships—*continued*

1 "A" Class

AUSONIA

Pennat No.: A 153
Builders: Armstrong Whitworth, Newcastle-on-Tyne
Launched: 1921

Displacement: 20,760 tons *full load*
Measurement: 14,000 tons *gross*, 8,500 tons *net*, 12,000 tons *deadweight*
Dimensions: 519¾ (*pp.*), 538 (*o.a.*) × 65¼ × 31½
Guns: 10—40 mm. AA. (single)
Machinery: Geared turbines. 2 shafts. S.H.P.: 8,500 = 15 kts.
Oil fuel: 2,287 tons
Complement: 600



AUSONIA *Added 1959, Tom Molland*

General Notes

Former Cunard liner converted into a Heavy Repair Ship. *Ausonia*, formerly laid up in Millwall docks (W. Badger & Co.) in state of preservation, underwent a refit at Devonport in Oct. 1957-1958, and relieved the *Ranpura* as base heavy repair ship for the Mediterranean at Malta in 1959. Of *Ausonia*'s sister ships, *Alaunia*, training ship for engine-room ratings at Devonport until 1956, was scrapped in Sep. 1957; and *Artifex* (ex-*Aurania*), training ship for artificer apprentices at H.M.S. *Caledonia* establishment at Rosyth until 1959, and since used as a living ship, is for disposal in 1960.

Recent Disposals

The heavy repair ship *Ranpura*, former P. & O. liner, was approved to be scrapped in 1960.

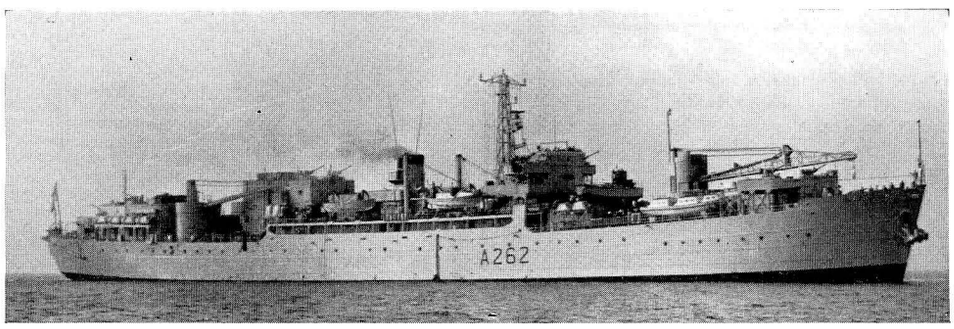
MAINTENANCE SHIPS

2 "Point" Class

DODMAN POINT **HARTLAND POINT**

Name:	*Dodman Point*	*Hartland Point*
Pennant No.:	A 219	A 262
Builders:	Burrard Dry Dock Co. Ltd., North Vancouver, B.C.	Burrard Dry Dock Co. Ltd., North Vancouver, B.C.
Ordered:	1 May 1944	1 May 1944
Laid down:	6 Jan. 1945	18 July 1944
Launched:	14 Apr. 1945	4 Nov. 1944
Completed:	5 Oct. 1945	11 July 1945
Accepted:	5 Oct. 1945	12 July 1945

Displacement: 8,580 tons *standard* (10,200 tons *full load*)
Dimensions: 441 (*o.a.*) × 57 × 20 feet
Guns: 11—40 mm. Bofors AA. in *Hartland Point*. (16—20 mm. AA. were removed from *Dodman Point*)
Machinery: Triple expansion. I.H.P. : 2.500 = 11 kts.



HARTLAND POINT (after reconstruction) *1960, Wright & Logan*

Notes

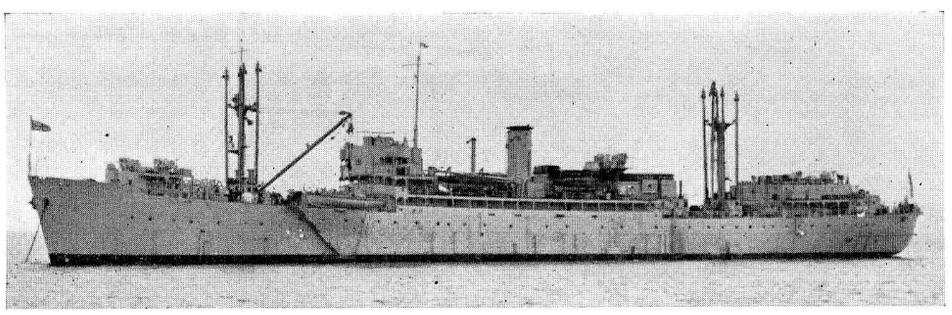
Former Landing Ship Maintenance Ships. *Dodman Point* is now a depot ship. In 1959-1960 *Hartland Point* was modernised as an Escort Maintenance Ship, with lattice foremast, modified bridge, novel short funnel, additional deckhouses, modern cranes, and new armament. She is relieving *Tamar* as base ship, Hong Kong; but is of operational status.

2 "Mull" Class

MULL OF GALLOWAY (ex-*Kinnard Head*)
MULL OF KINTYRE

Name:	*Mull of Galloway*	*Mull of Kintyre*
Pennant No.:	A 225	A 226
Builders:	North Vancouver Ship Repairs Ltd.	North Vancouver Ship Repairs Ltd.
Ordered:	1 May 1944	1 May 1944
Laid down:	19 June 1944	21 Dec. 1944
Launched:	26 Oct. 1944	5 Apr. 1945
Completed:	15 May 1945	5 Nov. 1945 (Accepted)

Displacement: 8,500 tons *standard* (10,200 tons *full load*)
Dimensions: 416 (*w.l.*), 441 (*o.a.*) × 57 × 20 feet
Guns: 9—40 mm. AA. (removed from *Mull of Kintyre*)
Machinery: Triple expansion. I.H.P.: 2,500 = 11 kts.



MULL OF GALLOWAY *Added 1960, courtesy Godfrey H. Walker, Esq.*

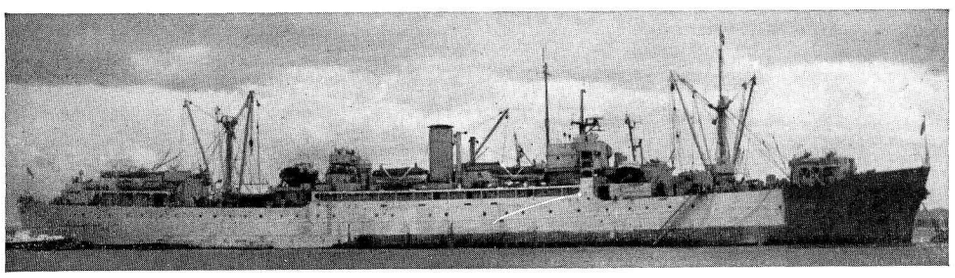
Notes

Mull of Galloway was an Inshore Minesweeper Flotilla Headquarters and Base Ship, but she was refitted in 1960 and since May has been employed with the cruiser *Sheffield* as joint Reserve Fleet Headquarters Ships at Portsmouth as part of the relief for the battleship *Vanguard*. *Mull of Kintyre* was an Armament Maintenance Ship, then a Repair and Accommodation Ship and is being converted into a Minesweeper Maintenance Ship.

3 "Head" Class

BERRY HEAD **RAME HEAD**
DUNCANSBY HEAD

Displacement: 8,580 tons *standard* (11,270 tons *full load*)
Dimensions: 441½ × 57 5/12 × 20 5/6 (*mean*) feet
Guns: 16—20 mm. AA. (removed from *Rame Head*)
Machinery: Triple expansion. I.H.P.: 2,500 = 11 kts.
Boilers: 2 Foster-Wheeler



BERRY HEAD *Added 1953, C. Parsons, Esq.*

Name	*Pennant No.*	*Builders*	*Laid down*	*Launched*	*Completed*
Berry Head	A 191	Burrard Dry Dock Co.	15 June 1944	21 Oct. 1944	30 May 1945
Duncansby Head	A 158	Burrard Dry Dock Co.	29 July 1944	17 Nov. 1944	8 Aug. 1945
Rame Head	A 134	N.V. Ship Repairs Ltd.	12 July 1944	22 Nov. 1944	18 Aug. 1945

General Notes

Escort Maintenance Ships. All three ships were ordered on 1 May 1944. *Rame Head* was accepted on 18 Aug. 1945. *Berry Head* and *Duncansby Head* were accepted from the builders on 7 June 1945 and 9 Aug. 1945, respectively. *Berry Head* was refitted and modernised in 1960. *Duncansby Head* has been employed as Headquarters Ship of the Reserve Fleet at Rosyth since June 1960.

Class Notes

Beachy Head and *Flamborough Head* of this class now belong to the Royal Canadian Navy, having been acquired in 1952 and 1951, respectively, and renamed *Cape Scott* and *Cape Breton*.

Recent Disposals

Of the two "Ness" class landing craft maintenance ships, the *Girdle Ness* was converted into a guided weapons trials ship (see earlier page), and the *Buchan Ness* was scrapped in 1960.

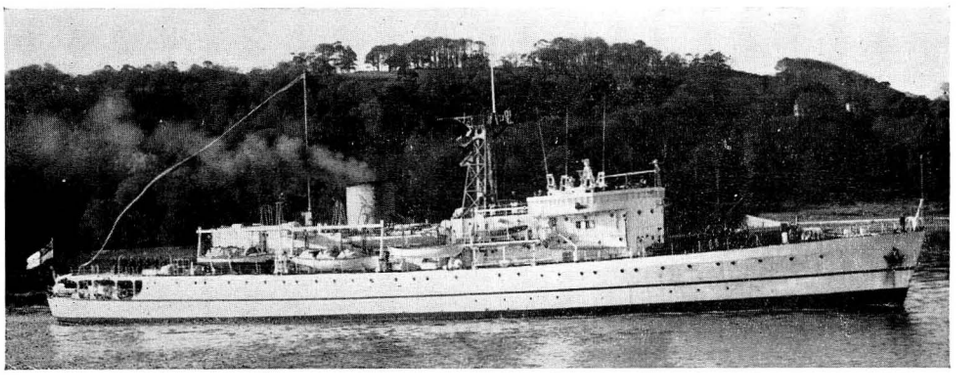
SURVEY SHIPS

1 Helicopter Type

VIDAL

Pennant No.:	A 200
Builders:	H.M. Dockyard, Chatham
Engineers:	H.M. Dockyard, Chatham
Laid down:	5 July 1950
Launched:	31 July 1951
Completed:	29 Mar. 1954
Displacement:	1,940 tons *standard* (2,200 tons *full load*) officially revised figures
Dimensions:	297 (*pp.*), 315 (*o.a*) × 40 × 11 (*forward*), 13 (*aft*) feet
Armament:	4—3 pdr. saluting guns and depth charges
Aircraft:	1 helicopter
Machinery:	4 diesel engines driving two shafts through reverse and reduction gear boxes. B.H.P.: 8,300=15 kts.
Complement:	161

General Notes
Design figures for displacement were 1,565 tons standard and 1,885 tons full load, but in fact she has turned out heavier. Designed by the Admiralty from the start for hydrographic surveying and chart production. First surveying ship to be equipped with helicopter flight deck and hangar, designed to enable a helicopter to land on and fly off for air surveying photography and transport of personnel to shore observation stations. Air conditioning plant is installed to meet equatorial and polar climatic conditions. Ship carries three surveying motor launches equipped with echo sounding apparatus. First British naval vessel to be built equipped from the beginning for cafeteria messing. Cost £1,345,000.



VIDAL — 1960, *Tom Molland Ltd.*

Engineering Notes
The main propelling machinery was designed in H.M. Dockyard, Chatham.

Electrical Notes
The latest electronic aids to surveying and navigation are incorporated. Electrical power is provided from 360 kw. 220 volt direct current diesel generating sets.

Helicopter Notes
The after end of the forecastle deck extension is a landing apron for the helicopter, which is housed in the after deck house hangar on the same level.

Appearance Notes
The funnel and the fore part of the bridge are pear-shaped in plan.

4 " Cook " Class

(ex-*Frigates*)

COOK (ex-*Pegwell Bay*, ex-*Loch Mochrum*)
DALRYMPLE (ex-*Luce Bay*, ex-*Loch Glass*)
DAMPIER (ex-*Herne Bay*, ex-*Loch Eil*)
OWEN (ex-*Thurso Bay*, ex-*Loch Muick*)

Displacement:	1,600 tons *standard* (2,230 tons *full load*)
Dimensions:	286 (*pp.*), 307 (*o.a.*) × 38½ × 12½ feet (14¼ feet *max.*)
Armament:	4—3 pdrs., 2 D.C.T.
Machinery:	2, 4-cylinder triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	10,000 miles at 10 kts.
Complement:	149 (14 officers, 135 ratings)

General Notes
All modified frigates of the " Bay " Class. *Cook* and *Dalrymple* were both completed at H.M. Dockyard, Devonport; *Dampier* and *Owen* were both completed at H.M. Dockyard, Chatham. Equipped with radar, asdic and other modern equipment.

Electrical Notes
Electrical power in these ships, at 220 volts D.C., is derived from two 120 kw. steam-turbine-driven and two 150 kw. diesel-driven generators.



COOK — *Added* 1960, *Official*

Engineering Notes
The main machinery of *Cook* and *Dalrymple* was manufactured by George Clark Ltd., Sunderland.

Photograph Notes
Photographs of *Dalrymple* in the 1958-59 and 1959-60 editions, and of *Owen* in the 1957-58 and earlier editions.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
A 307	*Cook*	Wm. Pickersgill & Sons, Ltd., Sunderland	30 Nov. 1944	24 Sep. 1945	20 July 1959
A 302	*Dalrymple*	Wm. Pickersgill & Sons, Ltd., Sunderland	29 Apr. 1944	12 Apr. 1945	10 Feb. 1949
A 303	*Dampier*	Smith's Dock Co. Ltd., South Bank-on-Tees	7 Aug. 1944	15 May 1945	6 June 1949
A 311	*Owen*	Hall, Russell & Co. Ltd., Aberdeen	30 Sep. 1944	19 Oct. 1945	23 Sep. 1948

2 " Scott " Class

(ex-*Fleet Minesweepers*)

SCOTT **SHACKLETON** (ex-*Sharpshooter*)

Name:	*Scott*	*Shackleton*
Pennant No.:	A 308	A 310
Builders:	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	H.M. Dockyard, Devonport
Laid down:	1937	1936
Launched:	23 Aug. 1938	10 Dec. 1936
Completed:	31 July 1939	17 Dec. 1937

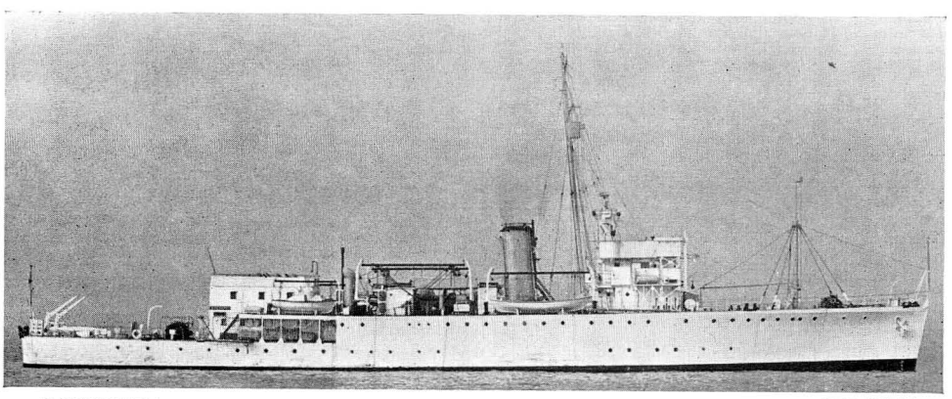
Displacement:	830 tons *standard* (1,260 tons *full load*)
Dimensions:	230 (*pp.*), 245 (*o.a.*) × 33½ × 7 (*mean*) 10 (*max.*) feet
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 1,750=17 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	220 tons
Radius:	4,000 miles at 10 kts.
Complement:	84

General Notes
Both begun as fleet minesweepers under 1936 and 1937 Estimates. *Scott* differs from *Shackleton*, as apparent from photos. Mainmast removed from *Shackleton* which was renamed in 1953. Both ships may be disposed of in the near future (see *New Construction*).

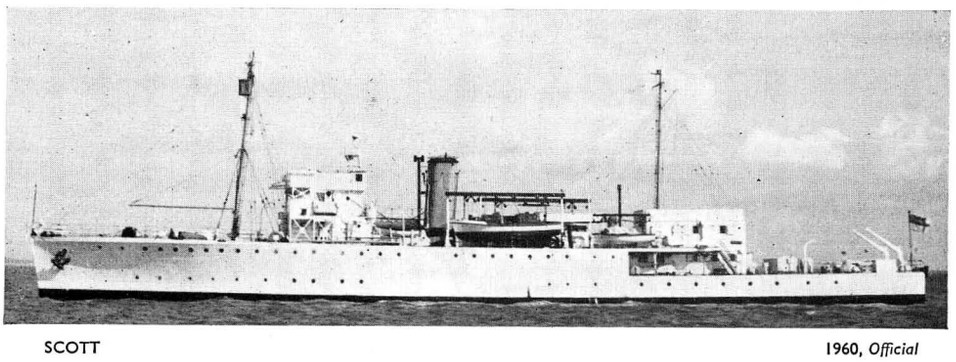
Class Notes
Sister ship *Seagull* is now hulk drillship for Forth Division R.N.V.R. at Leith.

Recent Disposals
Seagull was stricken from the active list 1955, see above. Sister ship *Franklin* was handed over to the British Iron & Steel for scrapping in 1956.

New Construction
These two ships may be replaced by a single specially built vessel.

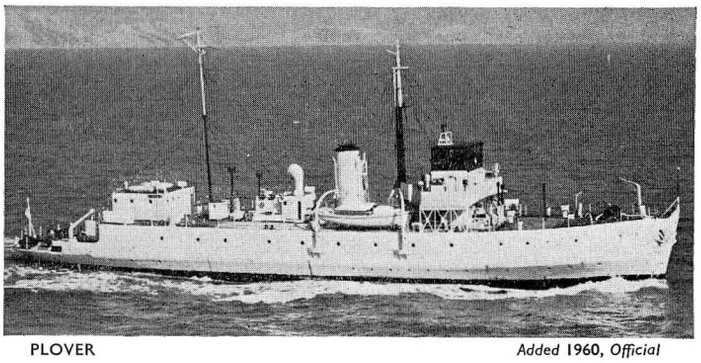


SHACKLETON — 1960, *Official*



SCOTT — 1960, *Official*

MINELAYER



PLOVER — *Added* 1960, *Official*

PLOVER

Displacement:	805 tons *standard* (1,020 tons *full load*)
Dimensions:	180 (*pp.*), 195¼ (*o.a.*) × 37½ × 8½ feet
Guns:	2 M.G.
Machinery:	Triple expansion. I.H.P.: 1,400 = 14·75 kts.
Complement:	69

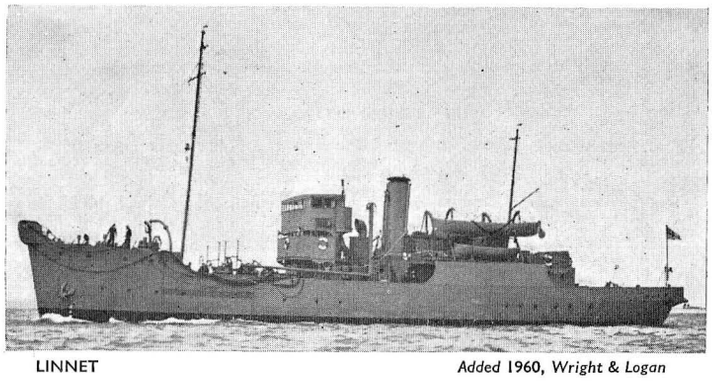
General Notes

Designed and built as a coastal minelayer. Pennant No. N 26. Built by Wm. Denny & Bros. Ltd., Dumbarton. Laid down on 7 Oct. 1936. Launched on 8 June 1937. Completed in Sep. 1937. Formerly employed as minelaying tender to the Torpedo and Anti-Submarine School in *H.M.S. Vernon*. Refitted in 1955 when the mainmast was stepped, the radar cabinet on the flag deck removed, and the radar aerial erected on the roof of the bridge. Now employed in the Portsmouth Squadron under the administration of the Captain (D).

Photograph Notes

A large photograph appears in the 1956-57 to 1959-60 editions, and a larger aerial view appears in the 1959-60 edition.

CONTROLLED MINELAYERS



LINNET — *Added* 1960, *Wright & Logan*

1 Coastal Type

LINNET

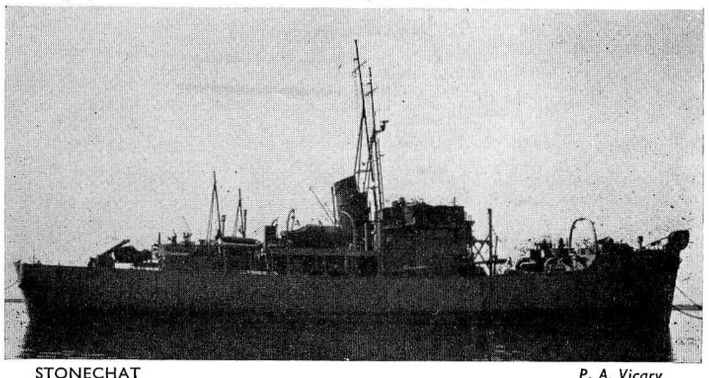
Displacement:	560 tons *standard* (610 tons *full load*)
Dimensions:	145 (*pp.*), 163¾ (*o.a.*) × 27½ × 8 feet
Guns:	1—20 mm. AA., 2 M.G.
Machinery:	Triple expansion by Ferguson Bros. Ltd. I.H.P.: 400 = 10·5 kts.
Complement:	24

General Notes

Built as a coastal minelayer under the 1936 Estimates. Pennant No. N 69. Built by Ardrossan Dockyard Co. Ltd. Launched on 3 May 1938. Completed in 1939. Was employed as Static Pulsing Vessel. It was officially stated in 1960 that this ship, now rated as a controlled minelayer, is in operational reserve. Sister ship *Redstart* was a war loss.

Photograph Notes

Photograph of *Linnet* above, not a recent one, is for the record.



STONECHAT — *P. A. Vicary*

1 Trawler Type

STONECHAT

Displacement:	580 tons *standard* (790 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27½ × 12½ feet
Guns:	1—20 mm. AA., etc.
Machinery:	Triple expansion. I.H.P.: 850 = 12·5 kts.
Boiler:	1 cylindrical

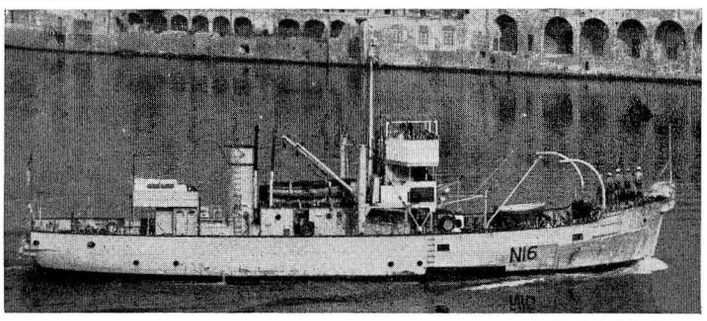
General Notes

Trawler type vessel. Specially equipped for controlled minelaying. Pennant No. N 25. Built by Cook, Welton & Gemmell Ltd., Beverley. Laid down on 23 Feb. 1944. Launched on 22 Aug. 1944. Completed on 12 Nov. 1944. In operational reserve in 1960. Another of this type, the *White Throat*, is in the Royal Canadian Navy. War loss: *Corncrake* (Cochrane). Sister ship *Blackbird* was acquired by the Guent Company and converted into a fishing trawler in 1949.

Transfer Notes

Dabchick (ex-*Thorney*) was lent to the Royal Malayan Navy and renamed *Penyu* in 1954, and again renamed H.M.M.S. *Sri Johor* in Oct. 1958 consequent upon the transfer of the Royal Malayan Navy to the Government of the Federation of Malaya.

Controlled Minelayers—*continued*



MINER VI — 1960, *A. & J. Pavia*

8 "Miner" Class

BRITANNIC (ex-*Miner V*)
GOSSAMER (ex-*Miner II*)
MINER I
MINER III
MINER IV
MINER VI
MINER VIII
STEADY (ex-*Miner VII*

Displacement:	346 tons *standard* (355 tons *full load*)
Dimensions:	110½ × 26½ × 8 feet
Machinery:	Ruston & Hornsby diesels. 2 shafts. B.H.P.: 360 = 10 kts.

General Notes

All built by Philip & Son Ltd., Dartmouth, and all engined by Ruston & Hornsby Ltd., Lincoln. *Gosamer* is now rated as a mine location vessel and is no longer capable of minelaying. She is attached to the Underwater Detection Establishment at Portland and is a tender to H.M.S. *Osprey*. *Miner I* and *Miner VIII* are the accommodation ships for the high speed experimental submarines *Excalibur* and *Explorer*, respectively. *Miner I* now has a large deckhouse aft of the bridge completely enveloping the funnel only the top of which is just visible. *Miner VIII* has a small deckhouse abaft of the funnel. *Miner V* has been converted into a cable lighter and was renamed *Britannic* in 1960. *Miner VII* has been adapted as a stabilisation trials ship at Portsmouth and was renamed *Steady* in 1960.

Photograph Notes

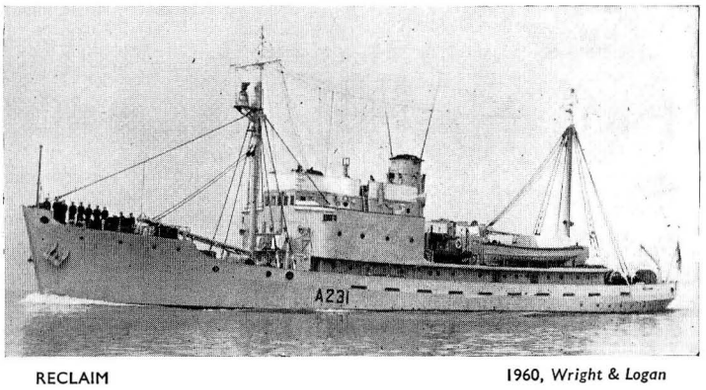
Larger photographs of *Miner V* and *Gossamer* (aerial view) appear in the 1957-58 and earlier editions. A larger photograph of *Miner VI* appears in the 1958-59 and 1959-60 editions.

Pennant No.	*Name*	*Begun*	*Launched*	*Completed*
N 11	*Miner I*	21 Nov. 1938	6 July 1939	26 Oct. 1939
N 12	*Miner II*	22 Dec. 1938	18 Aug. 1939	19 Jan. 1940
N 13	*Miner III*	18 Jan. 1939	16 Nov. 1939	16 Mar. 1940
N 14	*Miner IV*	10 Feb. 1940	6 Aug. 1940	12 Nov. 1940
Ex-N 15	*Miner V*	22 Apr. 1940	2 Nov. 1940	26 June 1941
N 16	*Miner VI*	22 Apr. 1941	7 Feb. 1942	30 May 1942
Ex-N 17	*Miner VII*	31 Mar. 1943	29 Jan. 1944	31 Mar. 1944
N 18	*Miner VIII*	28 Mar. 1942	24 Mar. 1943	15 May 1943

Recent Disposals

The controlled minelaying trawler *Redshank* was scrapped in 1958. The controlled minelayer *Penyu* is earmarked for disposal in the near future (full details of this ship in the 1958-59 edition).

MINE COUNTERMEASURE SUPPORT AND DIVING TRIALS SHIP



RECLAIM — 1960, *Wright & Logan*

Modified Ocean Salvage Vessel

RECLAIM (ex-*Salverdant*)

Displacement:	1,800 tons
Dimensions:	200 (*pp.*), 217¾ (*o.a.*) × 38 × 13¼ (*max.*) feet
Machinery:	Triple expansion by Aitchison Blair Ltd. 2 shafts. I.H.P.: 1,500 = 12 kts.
Oil fuel:	310 tons
Radius:	3,000 miles
Complement:	84

General Notes

Built by Wm. Simons & Co. Ltd., Renfrew. Engined by Aitchison Blair Ltd. Laid down on 9 Apr. 1946. Launched on 12 Mar. 1948. Completed in Oct. 1948. Her construction was broadly based on the design of a "King Salvor" class Admiralty ocean salvage vessel. She was the first deep diving and submarine rescue vessel to be built as such for the Royal Navy. The ship is fitted with asdic gear, echo-sounding apparatus for the detection of sunken wrecks, and radar, and is also equipped for submarine rescue work. Pennant No.: A 231.

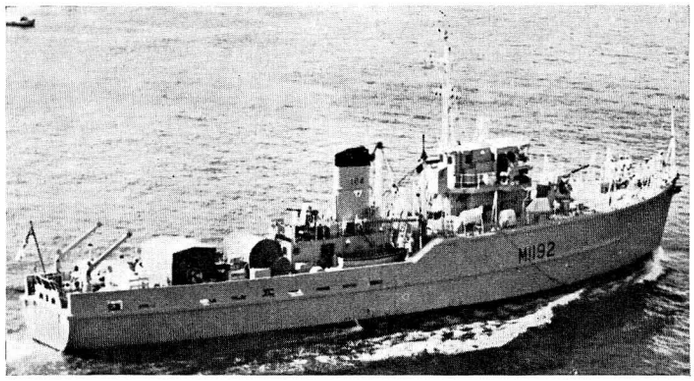
Reclassification Notes

Formerly a tender to H.M.S. *Vernon* shore establishment at Portsmouth for deep diving experiments, and subsequently a deep diving vessel in the Portsmouth Squadron. Reclassified as a Mine Countermeasure Support and Diving Trials Ship in 1960, and attached to H.M.S. *Lochinvar*, the minesweeping base at Port Edgar.

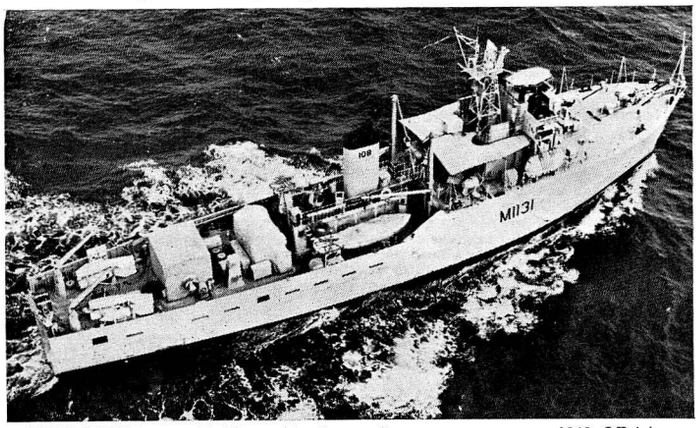
Recent Disposal

The Submarine Rescue Ship *Kingfisher* (modified Ocean Salvage Vessel *King Salvor*) was approved for disposal in 1960.

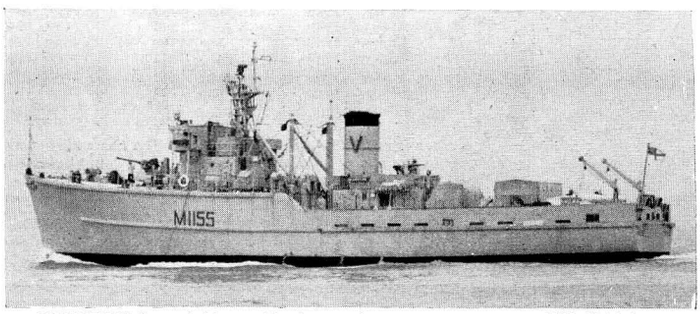
COASTAL MINESWEEPERS



WILKIESTON (enclosed or frigate type bridge and tripod mast) 1960, *A. & J. Pavia*



HICKLETON (covered bridge and lattice mast) 1960, *Official*



MONKTON (open bridge and lattice mast) 1960 ,*Keith Long*

103 " Ton " Class
M 1101 and M 1200 Series

ALCASTON
ALDINGTON (ex-*Pittington*)
ALFRISTON (ex-*Warsash*, ex-*Alfriston*)
AMERTON (ex-*Mersey*, ex-*Amerton*)
APPLETON
ASHTON
BADMINTON (ex-*Ilston*)
BEACHAMPTON
BELTON
BEVINGTON
BILDESTON
BLAXTON
BOSSINGTON (ex-*Embleton*)
BRINTON
BRONINGTON (ex-*Humber*, ex-*Bronington*)
BURNASTON
CALTON
CARHAMPTON
CAUNTON
CHEDISTON (ex-*Montrose*, ex-*Chediston*)
CHILCOMPTON
CHAWTON
CLARBESTON
CLYDE (ex-*Crichton*)
CONISTON
CROFTON
CURZON (ex-*Bickington*)
CUXTON
DALSWINTON
DARTINGTON
DILSTON (ex-*Pilston*)
DUFTON
EDDERTON
ESSINGTON
FENTON
FISKERTON
FITTLETON
FLOCKTON
FLORISTON
GAVINTON
GLASSERTON
HEXTON
HICKLETON
HIGHBURTON
HODGESTON (ex-*Northumbria*, ex- *Hodgeston*)
HOUGHTON
HUBBERSTON
ILMINGTON
INVERMORISTON
IVESTON
JACKTON
KEDLESTON
KELLINGTON
KEMERTON
KILDARTON (ex-*Liston*)
KILLIECRANKIE (ex-*Derriton*)
KILMOREY (ex-*Kirkliston*)
LALESTON
LANTON
LETTERSTON
LEVERTON
LEWISTON
LULLINGTON
MADDISTON
MAXTON
MARYTON
MERSEY (ex-*Pollington*)
MONKTON (ex-*Kelton*)
MONTROSE (ex-*Nurton*)
NORTHUMBRIA (ex-*Quainton*)
OULSTON
PENSTON
PICTON
PUNCHESTON
RENNINGTON
REPTON (ex-*Ossington*)
RODINGTON
ST. DAVID (ex-*Brereton*)
SANTON
SEFTON
SHAVINGTON
SHERATON
SHOULTON
SINGLETON
SOBERTON
SOMERLEYTON (ex-*Gamston*)
STUBBINGTON
SULLINGTON
SWANSTON
TARLTON
THAMES (ex-*Alverton*)
THANKERTON
UPTON
VENTURER (ex-*Buttington*)
WALKERTON
WARSASH (ex-*Boulston*)
WASPERTON
WISTON
WILKIESTON
WOLVERTON
WOOLASTON
WOTTON
YARNTON

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8¼ feet
Guns:	1—40 mm. Bofors AA. forward (removed in some ships), 2—20 mm. AA. aft
Machinery:	Diesels. 2 shafts. B.H.P.: 2,500 (Mirrlees), 3,000 (Deltics) = 15 kts. (*max.*). See *Engineering Notes*
Oil fuel:	45 tons
Complement:	27 in peacetime (39 war)

General Notes

These were a new type of vessel with a double mahogany hull and constructed throughout of aluminium alloy and other materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. John I. Thornycroft & Co. Ltd., Woolston, Southampton, were selected by the Admiralty to act as the " parent " firm for the group which built this class of minesweepers of similar design capable of operating sweeps against both contact and influence type mines and dealing with mines operated magnetically and acoustically. These ships were finally named after villages. *Coniston*, the first vessel of the " Ton " class to be completed, was accepted into H.M service in Feb. 1953. *Alfriston* was renamed *Warsash* in 1954 and allocated to the Solent Division R.N.V.R. and *Alverton* was renamed *Thames* on 8 June 1954, and allocated to the London Division R.N.V.R. *Bickington* was renamed *Curzon* on 30 Oct. 1954, and allocated to Sussex Division R.N.V.R. *Highburton*, the first ship of this type to be powered by Napier Deltic lightweight diesel machinery was accepted on 21 Apr. 1955. Ten more coastal minesweepers were ordered under the 1955-56 Navy Estimates.

Engineering Notes

These ships have high speed diesels, standardised to simplify the maintenance problem, and twin screws. The earlier vessels have main machinery manufactured by Mirrlees. Bickerton & Day Ltd., Stockport, but most of the later units have Deltic light weight diesels manufactured by D. Napier & Sons Ltd., Acton, London. Several ships, including *Alfriston*, *Amersham* and *Hodgeston*, recently have undergone conversion from Mirrlees to Deltic diesel machinery. The generators for electrical power are in separate engine rooms.

Stabiliser Notes

Coniston has been fitted with Vosper stabilisers, and the whole class are being or will be fitted with similar Vosper roll damping gear.

Appearance Notes

The last score or so of this class, including *Ashton*, *Chawton*, *Dilston*, *Dumbleton*, *Fiskerton*, *Houghton*, *Lewiston*, *Mersey* (ex-*Pollington*), *Montrose* (ex-*Nurton*), *Puncheston*, *Quainton*, *Repton* *Soberton*, *Stubbington*, *Walkerton*, *Wilkieston*, and *Wiston* are fitted with a new type of enclosed or frigate bridge and tripod mast. *Appleton*, *Shoulton* bridge only.

Experimental Notes

It is reported that *Stubbington* has a fibre glass bottom. *Fittleton* is being remodelled. *Sheraton* is being fitted with a new type of funnel.

Fishery Protection Notes

Of this class *Belton*, *Soberton*, *Wasperton* and *Wootton* constitute a division of the Fishery Protection Squadron.

Transfer Notes

Dunkerton and *Hazleton* were transferred to the South African Navy in 1955 and renamed *Pretoria* and *Kaapstad*, respectively. *Durweston*, *Overton*, *Whitton* and *Wennington* were transferred to the Indian Navy in 1956, and renamed *Kakinada*, *Karwar*, *Cannamore* and *Cuddalore*, respectively.

Castleton, *Chilton*, *Dumbleton*, *Oakington*, *Packington* and *Stratton* were transferred to the South African Navy in 1958-59 and renamed *Johannesburg*, *East London*, *Port Elizabeth*, *Mosselbaai*, *Walvisbaai* and *Kimberley*, respectively, with *Durban* and *Windhoek*.

Darlaston was sold to the Federation of Malaya in 1960.

R.N.R. Notes

Eleven " Ton " class coastal minesweepers have been renamed and are attached to Royal Naval Reserve Division Headquarters as follows (Division under *Name*):—

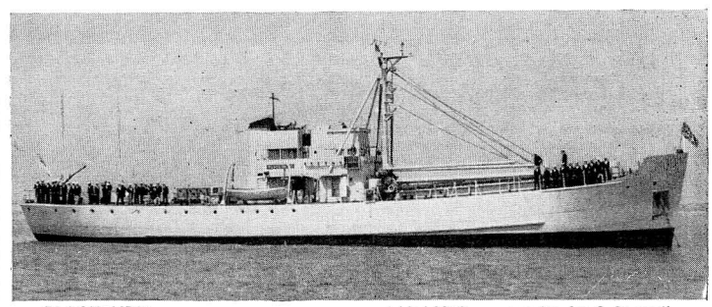
Thames	*Curzon*	*Warsash*	*Venturer*	*St. David*	*Mersey*
London	Sussex	Solent	Severn	S. Wales	Mersey
Kilmorey	*Clyde*	*Montrose*	*Killiecrankie*	*Northumbria*	
Ulster	Clyde	Tay	Forth	Tyne	

(The Humber Division was suppressed in 1958 and H.M.S. *Humber* reverted to her original name *Bronington*.)

Photograph Notes

Larger photographs of *Appleton*, *Bossington* (aerial views), *Houghton* and *Repton* appear in the 1959-60 edition.

AIRCRAFT TRANSPORTS



BLACKBURN *Added* 1960, *courtesy Dr. Ian S. Pearsall*

2 " Blackburn " Class

BLACKBURN **SKUA** (ex-*Walrus*)

Displacement:	990 tons *standard* (1,500 tons *full load*)
Dimensions:	210 (*o.a.*) × 35 × 13¾ feet
Machinery:	Crossley 2-stroke Diesels. B.H.P.: 960 = 10·5 kts.
Oil fuel:	60 tons

General Notes

Rated as Aircraft Transports (Small). Built by Blyth D.D. & S.B. Co. Fitted with 6-ton and 12-ton derricks for handling aircraft. *Blackburn* is employed as a seagoing tender for the Clyde Division R.N.V.R. *Skua* is a fender ship.

Photograph Notes

A larger photograph of *Skua* appears in the 1954-55 to 1959-60 editions.

Recent Disposals

Of three sister ships, the *Ripon* and *Roc* were sold out of the Service (sailed under private colours in May 1959), and the supply ship *Sea Fox* (former aircraft transport) was discarded in 1959.

EXPERIMENTAL TORPEDO TRIALS VESSEL

Ex-German Type

Ex-SAREPTA (ex-*Freida Peters*)

Displacement:	465 tons *standard*
Tubes:	4—21 inch

General Notes

Ex-German vessel. Launched in 1920. Multi-purpose torpedo experimental vessel, torpedo-firing ship, and torpedo recovery vessel. Reclassified as TRV in 1956, but not numbered.

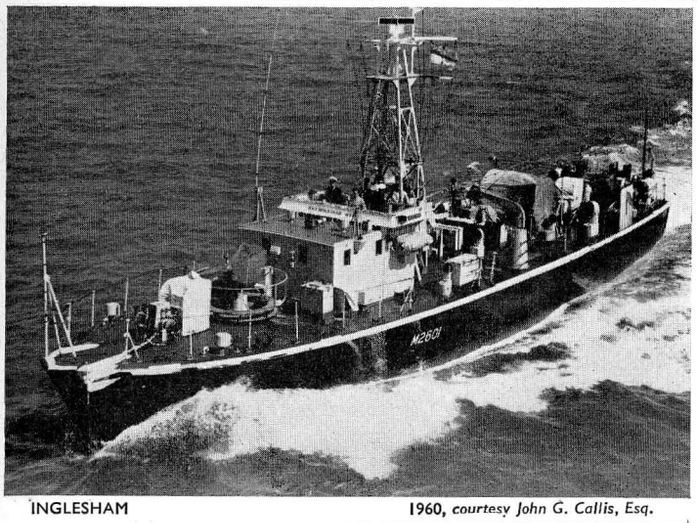
Photograph Notes

A photograph of *Sarepta* appears in the 1951-52 to 1957-58 editions.

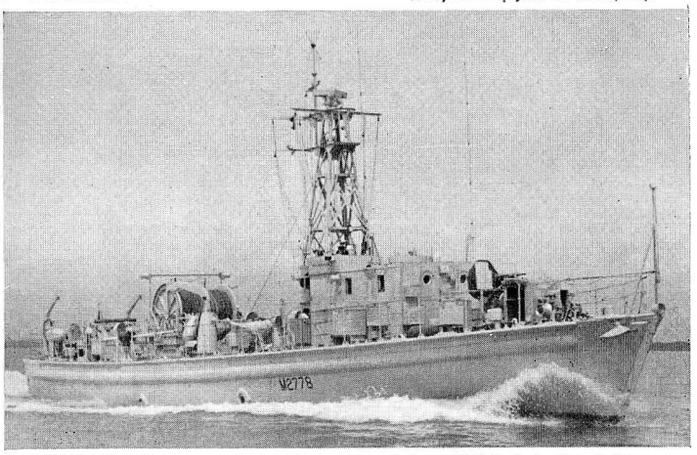
Torpedo Recovery Notes

TRV1, *TRV3*, *TRV4*, *TRV6*, *TRV8* and *TRV20* (ex-*MMS 1510*) were also employed as torpedo recovery vessels. The tender *Dwarf*, see later page, is used as a torpedo recovery vessel.

INSHORE MINESWEEPERS



INGLESHAM 1960, *courtesy John G. Callis, Esq.*



WOLDINGHAM *Added* 1960, *courtesy J. Samuel White & Co. Ltd., Builders*

70 " Ham " Class. M 2601 and M 2701 Series

ABBOTSHAM
ARLINGHAM
BASSINGHAM (*R.E.A.N.*)
BIRDHAM
BLUNHAM
BODENHAM
BOREHAM
BOTTISHAM
BRIGHAM
BUCKLESHAM
CARDINHAM (*H.K.R.N.V.R.*)
CHELSHAM
CHILLINGHAM
COBHAM
CRANHAM
DAMERHAM
DARSHAM
DAVENHAM
DITTISHAM
DOWNHAM
ELSENHAM
ETCHINGHAM (*H.K.R.N.V.R.*)
EVERINGHAM
FELMERSHAM
FLINTHAM
FORDHAM (ex-*Pavenham*)
FRITHAM
GEORGEHAM
GLENTHAM
GREETHAM
HALSHAM
HARPHAM
HAVERSHAM
HOVINGHAM
INGLESHAM
ISIS (ex-*Pulham*)
LASHAM
LEDSHAM
LUDHAM
MALHAM (*Ghana N.*)
MICKLEHAM
NEASHAM
NETTLEHAM
OCKHAM
ODIHAM
OTTRINGHAM (*Ghana N.*)
PAGHAM
POLSHAM
POPHAM
PORTISHAM
POWDERHAM
PUTTENHAM
RACKHAM
RAMPISHAM (ex-*Squirrel*, ex-*Rampisham*)
REEDHAM
SANDRINGHAM
SAXLINGHAM
SHIPHAM
SHRIVENHAM
SIDLESHAM
THAKEHAM
THATCHAM
THORNHAM
TONGHAM
TRESHAM
WARMINGHAM
WINTRINGHAM
WOLDINGHAM
WRENTHAM
YAXHAM

Displacement:	120 tons *standard* (159 tons *full load*)
Dimensions:	100 (*pp.*), 106$\frac{5}{12}$ (*o.a.*) × 21$\frac{1}{6}$ × 5$\frac{1}{2}$ feet
Guns:	1—40 mm. Bofors AA. or 1—20 mm. Oerlikon AA. forward (see *Gunnery Notes*)
Machinery:	2 Paxman diesels. B.H.P.: 550=14 kts. (9 kts. sweeping) see *Engineering Notes*
Oil fuel:	15 tons
Complement:	15 in peacetime (22 war)

General Notes

Designed to operate in shallow waters, such as rivers and estuaries. They are an entirely new type of vessel and they embody novel features resulting from lessons learned during the war and in the course of subsequent developments. They were finally named after villages. The first inshore minesweeper, the *Inglesham*, was launched by J. Samuel White & Co. Ltd., Cowes, on 23 Apr. 1952. The " Ham " class are of wooden construction, whereas the " Ley " class are of composite construction. All the M 2701 series have a rubbing strake unlike the M 2601 and M 2001 series.

Gunnery Notes

Most of the M 2601 series have had the 1—40 mm. gun replaced by 1—20 mm. All the M 2701 series have 1—20 mm.

Engineering Notes

The main machinery of most of these vessels was manufactured by Davey Paxman & Co. Ltd., Colchester, or by Ruston & Hornsby Ltd., Lincoln, Fodens Ltd., Sandbach, Cheshire, or Ransomes, Sims and Jefferies Ltd., Ipswich, under licence from Davey Paxman.

Appearance Notes

Most inshore minesweepers in commission now have black hulls.

Experimental Notes

Reedham, launched on 19 Aug. 1958 at Anglesey is fitted with Denny-Brown/Saunders-Roe small ship stabilising fins.

R.N.V.R. Notes

Pulham was allocated to the London Division Royal Naval Volunteer Reserve in 1956 and renamed *Isis*.

Fishery Protection Notes

Rampisham was renamed *Squirrel* in 1958 on allocation to fishery protection duties, but reverted to the original name *Squirrel* in 1960.

Inshore Minesweepers—*continued*

" Ham " Class—*continued*

Transfer Notes

In addition to the vessels above, a number of inshore minesweepers were built in British yards under the United States Navy's off-shore procurement programme for allocation to N.A.T.O. countries, the contract being signed on 13 Mar. 1953. The first of these was launched on 5 Apr. 1954. *Frettenham, Isham, Kingham, Mersham, Mileham, Petersham, Pineham, Rendlesham, Riplingham, Sparham, Stedham, Sulham, Tibenham, Wexham* and *Whippingham* were transferred to France in 1954-55. *Hildersham* and *Littlesham* were transferred to India in 1955 and renamed *Bimlipitan* and *Bassein*, respectively. *Bassingham* was transferred to the Royal East African Navy on 25 June 1958. *Bedham* was transferred to the Royal Malayan Navy in 1958 and renamed H.M.M.S. *Langka Suka*. *Cardinham* and *Etchingham* were transferred to the Hong Kong Royal Naval Volunteer Reserve in 1959. *Altham, Asheldham* and *Brantingham* were transferred to the Royal Malayan Navy in 1959 and renamed *Sri Johor, Sri Perlis* and *Temasek*, respectively. *Malham* and *Ottringham* were transferred to the Ghana Navy at the end of 1959.

Photograph Notes

Larger photographs of *Chillingham* and *Darsham* (aerial view) appear in the 1959-60 edition, and an aerial view of *Altham* appears in the 1957-58 and 1958-59 editions.

Recent Disposals

Bisham and *Edlingham*, extensively damaged by fire at H.M.S. Hornet on 29 Sep. 1956, were scrapped in 1959.



DINGLEY 1960, *Wright & Logan*



WATCHFUL 1959, *Wright & Logan*

9 " Ley " Class. M 2001 Series

AVELEY
BREARLEY
BRENCHLEY
BRINKLEY
CHAILEY
CRADLEY
DINGLEY
WATCHFUL (ex-*Broomley*)
SQUIRREL (ex-*Burley*)

Displacement:	123 tons *standard* (164 tons *full load*)
Dimensions:	100 (*pp.*), 106$\frac{2}{3}$ (*o.a.*) × 21$\frac{3}{4}$ × 5$\frac{1}{2}$ feet
Guns:	1—40 mm. Bofors AA. or 1—20 mm. Oerlikon AA. forward
Machinery:	2 Paxman diesels. B.H.P.: 550=14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	15 in peacetime (22 war)

General Notes

The " Ley " class differ from the " Ham " class in that they are of composite (non-magnetic metal and wooden) construction, instead of all wooden construction. Their superstructure and other features also differ considerably, and they have slightly increased overall length and beam. *Brinkley* and *Dingley* are employed as diving and frogman tenders and their hulls are painted black.

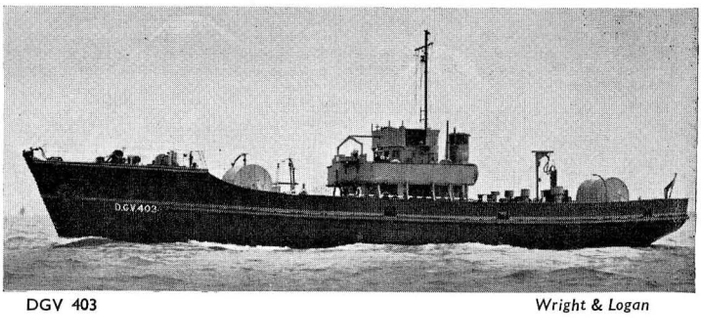
Fishery Protection Notes

Broomley was renamed *Watchful* in 1958 on allocation to fishery protection duties and is painted black (see photo), and *Burley* was renamed *Squirrel* in 1960 on allocation to fishery protection duties.

Recent Disposal

Broadley, extensively damaged by fire at H.M.S. Hornet on 29 Sep. 1956, was scrapped in 1959.

DEGAUSSING VESSELS



DGV 403 *Wright & Logan*

4 Ex-Motor Minesweepers (" 126-ft." Type. 1001 Series)

DGV 400 (ex-*MMS* 1002)
DGV 401 (ex-*MMS* 1003)
DGV 402 (ex-*MMS* 1004)
DGV 403 (ex-*MMS* 1011)

Displacement:	254 tons *standard* (360 tons *full load*)
Dimensions:	126 (*pp.*), 139$\frac{3}{8}$ (*o.a.*) × 26 × 10$\frac{1}{2}$ (*mean*), 12$\frac{1}{2}$ (*max.*) feet
Machinery:	Diesel. B.H.P.: 500=10 kts.
Oil fuel:	55 tons
Complement:	21

Notes

Former large motor minesweepers of the " 126-ft." Type, 1001 series, of wooden construction, converted into Degaussing Vessels. The *Prestige* was also to have been converted to a Degaussing Vessel, *DGV 404*.

FAST PATROL BOATS



BRAVE BORDERER 1960, *courtesy Vosper Ltd., Portsmouth (Builders)*

2 " Brave " Class

(Gas Turbine Type Convertible Torpedo/Gunboats)

BRAVE BORDERER **BRAVE SWORDSMAN**

Displacement:	75 tons *standard* (100 tons *full load*)
Dimensions:	90 (*pp.*), 96 (*w.l.*), 98⅝ (*o.a.*) × 25½ × 6 feet
Armament:	As M.G.B.: 2—40 mm. single Bofors guns in power operated mountings, and 2—21 inch torpedo tubes As M.T.B.: 4—21 inch torpedo tubes, and 1—40 mm. single Bofors gun
Machinery:	3 Bristol Marine Proteus 1250 gas turbine propulsion units and jets. 3 shafts. S.H.P.: 10,500=over 50 kts. (on trials). Fixed pitch propellers
Complement:	20 (3 officers, 17 ratings); 22 as Senior Officers' Ship of a Squadron (3 officers, 19 ratings)

General Notes

This class of two fast patrol boats or convertible gunboats and torpedo boats, intermediate between the " Bold " and " Dark " Classes, were built at Vosper Ltd., Portsmouth. The hull is framed in welded aluminium with double skinned planking of mahogany and sheathed with glass fibre below the water line. An hydraulic operated flap fitted on the transom maintains the crafts running trim. They are very beamy in relation to their length, the ration being less than 1:4 only.

H.M.S. *Brave Borderer*, the first of the new " Brave " class Fast Patrol Boats (Medium), was launched at the Portchester, Hants., yard of Vosper Ltd. on 7 Jan. 1958 and was accepted from her builders for service with the Royal Navy on 26 Jan. 1960. *Brave Swordsman* was launched at the same yard on 22 May 1958.

Experimental Notes

Both boats are in the Coastal Forces Trials and Special Service Squadron attached to H.M.S. *Dolphin II*, formerly H.M.S. *Hornet*, shore headquarters at Gosport.

Engineering Notes

The craft are powered with Proteus Gas Turbines, as used in the " Britannia " aircraft, but adapted for the Royal Navy by Bristol Siddeley Engines Ltd., Filton. in association with W. H. Allen, Bedford, who supplied the primary reduction gears and the reverse reduction gearboxes.

In addition to the Proteus engines, Rover Gas Turbines driving Metro-Vickers 40 kw. generators are fitted to provide electrical power. No diesel machinery is fitted. Both Proteus and Rover turbines run on pool diesel fuel. The present authorised maximum rating of the marine Proteus is 3,500 S.H.P. and the maximum continuous rating 2,800 S.H.P.

A striking feature of the Proteus engine is that with the primary reduction gearbox it gives I.H.P. for every 0·83 lbs. of its weight, and including the reverse reduction gearbox, I-H.P. for every 1·6 lbs of its weight.

During trials speeds in excess of 50 knots were continually reached, a most important achievement since these fast patrol boats were designed for offensive operations against enemy warships and merchant ships, particularly the latter, in coastal, inshore and shoal waters, where high speed is essential.

The propellers are relatively small and of high speed. This is a novel and unusual feature resulting from joint research carried out by the Admiralty and Vosper Ltd. using the firm's cavitation tunnel.

Gas turbines give an increase of 35 per cent in total power combined with a reduction of 50 per cent in machinery weight and a saving of 25 per cent in machinery space.

Electrical Notes

The electrical installation incorporates new lightweight equipment and methods of an experimental character designed by Vosper Ltd. to make an overall contribution to weight reduction. The generator units comprise two Rover gas turbines, each of 40 kilowatts. The installation is by Vosper Ltd.

Design Notes

The design studies were carried out under Admiralty instructions by Vosper Ltd. as a joint effort with Admiralty departments and co-ordinated by the Director General, Ships. The Admiralty's extensive research facilities were available at all stages in design.

Since being launched the *Brave Borderer* has undergone extensive evaluation trials and the design has proved to be very satisfactory.

Armament Notes

The originally designed armament of the " Brave " Class functioning as Motor Gun Boats comprised one 3·3 inch calibre turret mounted gun specially developed for this craft and fitted with a stabilisation system capable of dealing with the severe motion experienced in this type of high speed craft. With the 3·3 inch gun was one 40 mm. single barrelled mounting (Bofors) and two 21 inch torpedoes.

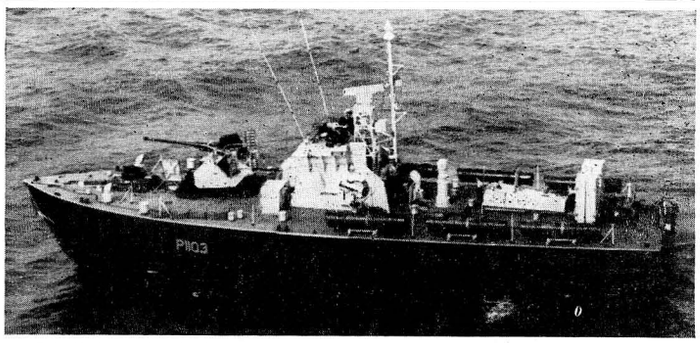
New Construction

Vosper has built a gas turbine patrol boat of new design named *Ferocity*, with a displacement of 75 to 85 tons, an overall length of 90⅔ feet and a beam of 22 feet, propelled by two Bristol Siddely Proteus Engines aggregating 8,500 B.H.P. equal to a maximum speed of 50 to 54 knots, and armed with four 21-inch torpedoes and one 40mm. gun (or two 21-inch torpedoes and two 40mm. guns).



DARK HIGHWAYMAN 1960, *Wright & Logan*

Fast Patrol Boats—*continued*



DARK ANTAGONIST *Added 1960, Official*

9 " Dark "Class

(Convertible Motor Torpedo Boats and Motor Gun Boats)

DARK ADVENTURER **DARK HERO** **DARK HUSSAR**
DARK FIGHTER **DARK HIGHWAYMAN** **DARK INTRUDER**
DARK GLADIATOR **DARK HUNTER** **DARK SCOUT**

Displacement:	50 tons *standard* (64 tons *full load*)
Dimensions:	67 (*pp.*), 71½ (*o.a.*) × 19 15/16 × 6½ (*max.*) feet
Armament:	As M.G.B.: 1—4·5 inch gun, 1—40 mm. AA. gun (or 2—40 mm. AA. guns) As M.T.B.: 4—21 inch torpedo tubes, 1—40 mm. AA. gun Rocket flare launchers and depth charge chutes are also fitted
Machinery:	2 Napier Deltic diesels. S.H.P.: 5,000=40 kts. (*approx.*)
Complement:	15

General Notes

Boats are of composite construction, aluminium alloy being used for the framing and deck. The hulls of this class are now painted black. Several boats of this class were renamed. Cost £325,000 to £338,000.

Dark Buccaneer and *Dark Clipper* were commissioned at H.M.S. *Hornet*, the Coastal Forces Base at Gosport on 31 Jan. 1957. These boats completed the equipping of the second operational squadron with diesel engined craft, bringing to a close the era of petrol engined boats in coastal forces. The " Dark " class have been officially described as uncomfortable and noisy but they are of a newer design, have more power, mount a better armament and are generally more reliable. Diesel fuel does not catch fire as easily as high octane petrol.

Experimental Notes

Dark Scout, the last of the 19 boats, launched on 20 Mar. 1958 at Saunders-Roe (Anglesey) Ltd., Beaumaris, is in the Coastal Forces Trials and Special Service Squadron at H.M.S. *Dolphin II*, Fort Blockhouse, Gosport. Unlike the earlier craft which were of composite wood planking on aluminium framing, this boat was of all-welded aluminium throughout. The hull of the boat was of hard chine form which was developed to give good seagoing qualities combined with high maximum and cruising speeds.

Engineering Notes

These fast patrol boats incorporate a new design of diesel machinery which for its power is the lightest unit so far designed. *Dark Hunter*, launched on 18 Mar. 1954, was the first of a new class powered by the Napier Deltic engine which has a very high performance, and takes the form of an opposed piston two-stroke cycle engine constructed in triangular form with three crankshafts, an arrangement new to engineering. The Deltic engine was designed and developed for the Royal Navy by D. Napier & Son Ltd., Acton, London, on behalf of their parent company, the English Electric Company Ltd. The engine develops 2,500 shaft horse power at 2,000 revolutions per minute. The engine and reverse gear weighs only 10,500 lbs., and therefore gives one horse power for every 4·2 lbs. of its weight. This is the best power-weight ratio ever achieved in a marine diesel engine. No petrol is carried in these boats because all power is provided by diesel machinery. In addition to the Deltic engines, a Foden FD. 4 two-stroke diesel engine is fitted to drive the 35 kw auxiliary generator set and bilge pump. Comprehensive radio and radar installations are also fitted.

Class Notes

Five vessels of the " Dark " type were purchased by Burma, and two similar boats were acquired by Finland.

Photograph Notes

Photographs of *Dark Hussar* in the 1959-60 edition, of *Dark Adventurer* (as gunboat) in the 1955-56 to 1958-59 editions, of *Dark Rover* (as torpedo boat) in the 1957-58 edition, and of *Dark Aggressor* in the 1955-56 and 1956-57 editions.

Recent Disposals

Although only recently completed, nine new boats of the " Dark " Class, *Dark Aggressor*, *Dark Antagonist*, *Dark Avenger*, *Dark Biter*, *Dark Buccaneer*, *Dark Clipper*, *Dark Invader*, *Dark Killer* and *Dark Rover* are to be disposed of in the near future. *Dark Avenger* was on the sales list in 1960, and *Dark Invader* (land cradled at *Hythe*) was also for disposal in 1960. The construction of *Dark Horseman* was abandoned.



GAY FENCER 1960, *Tom Molland Ltd.*

3 " Gay " Class

(Interchangeable Motor Gun/Torpedo Boats)

GAY CHARGER **GAY CHARIOTEER** **GAY FENCER**

Displacement:	*ca* 50 tons *standard* (65 tons *full load*)
Dimensions:	71½ (*pp.*), 75½ (*o.a.*) × 20½ × 4½ feet
Guns:	1—4·5 inch for'd (as gunboat), 1—40 mm. AA. aft
Tubes:	2—21 inch (as torpedo boat) with 2—40 mm. AA.
Machinery:	Packard high octane petrol engines. B.H.P.: *ca* 5,000=40 kts. (*approx.*), 30 to 35 kts. sea speed
Complement:	13

General Notes

Survivors of a class of twelve post-war short motor torpedo boats. As gunboats they had new type short 4·5 inch forward (25 calibres). They are almost entirely of wooden construction. The hull incorporates structural members of water resistant plywood. Completed in 1954. Cost £78,000 to £125,000 each. These boats, which were largely a repeat of war-time designs but which served their purpose in the interim period until diesel

Fast Patrol Boats—*continued*

" Gay " Class—*continued*

machinery of a new design was ready, were superseded operationally by the improved vessels of the " Dark " class. *Gay Charger*, *Gay Charioteer* and *Gay Fencer* are used for target towing under the administration of the Commodore, Devonport.

Photograph Notes
Photograph of *Gay Forester* (as torpedo boat) in the 1956-57 to 1959-60 editions. Photograph of *Gay Bombardier* (as gunboat) in the 1953-54 to 1957-58 editions.

Recent Disposals
Gay Archer, *Gay Bombardier*, *Gay Bowman*, *Gay Caribineer* and *Gay Cavalier* are all laid up at Hythe and will be sold in the near future. *Gay Bruiser*, *Gay Centurion*, *Gay Dragoon* and *Gay Forester* were all on the sales list in 1960.



BOLD PATHFINDER 1960, *courtesy Godfrey H. Walker, Esq.*

1 " Bold " Class
Interchangeable Torpedo/Gunboat

BOLD PATHFINDER (ex-*MTB* 5720)

Displacement:	130 tons *standard* (150 tons *full load*)
Dimensions:	117 (*pp.*), 122⅔ (*o.a.*) × 20$\frac{5}{12}$ × 6$\frac{7}{12}$ feet
Guns:	2—4·5 inch, new type 25 cal.; 1—40 mm. Bofors AA. (as gunboat)
Tubes:	4—21 inch (as torpedo boat) with 1—40 mm. Bofors AA.
Machinery:	2 G.2 gas turbines. S.H.P.: 9,000 and 2 diesels. B.H.P.: 5,000 =43 kts. (*approx.*)
Complement:	20

General Notes
Built by Vosper Ltd., Portsmouth. Launched on 17 Sep. 1951. Completed in July 1953. This fast patrol boat is another experimental development of the motor torpedo boat type. She is largely of light alloy construction with round bilge hull form and twin funnels of almost oblong section. There are four rudders. Refitted in 1955. Cost over £370,500.

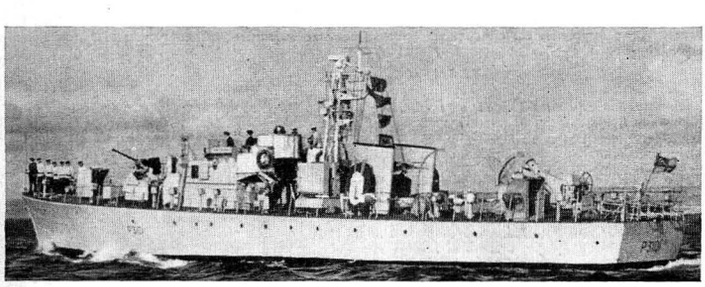
Engineering Notes
Engines manufactured by Metropolitan-Vickers Electrical Co. Ltd., Manchester. The boat has four screws.

Photograph Notes
Larger photographs of *Bold Pathfinder* appear in the 1958-59 and 1959-60 editions and (as gunboat) in the 1953-54 to 1957-58 editions.

Recent Disposals
The *Bold Pioneer*, one of the two " Bold " Class Experimental Prototypes, convertible or interchangeable motor torpedo boats and/or motor gunboats, was scrapped in 1958 (photograph and full details in 1957-58 edition).

Disposals of Earlier Classes
The sole survivor of the Camper & Nicholsons type, FPB 5514; the five remaining long boats of the Fairmile " D " type, FPB 5001, 5002, 5020, 5035 and 5036; the Vosper experimental type, FPB 1601; and all nine of the " Proud " Class were disposed of in 1958.
The six control target boats, *CT* 8044, *CT* 8045, *CT* 8101, *CT* 8102, *CT* 8103 and *CT* 8104, and the radio controlled target boats, *RCB* (*EL*) 8201, *RCB* (*EL* 8202, *RCB* (*EL*) 8203 and *RCB* (*EL*) 8205, were disposed of in 1958-59.

SEAWARD DEFENCE BOATS



SHALFORD (squid aft) *Official*

17 " Ford " Class

ABERFORD
AXFORD
BECKFORD
BRYANSFORD
CAMBERFORD
DROXFORD (ex-*Dee*, ex-*Droxford*)
DUBFORD
GIFFORD
GREATFORD
HINKSFORD
ICKFORD
KINGSFORD
MARLINGFORD
MAYFORD
MONTFORD
SHALFORD
TILFORD

Seaward Defence Boats—*continued*



HINKSFORD 1960, *Skyfotos*

" Ford " Class—*continued*

Displacement:	120 tons *standard* (160 tons *full load*)
Dimensions:	110 (*pp.*), 117¼ (*o.a.*) × 20 × 5 feet
Guns:	1—40 mm. Bofors AA. (none in *Ickford*)
A/S weapons:	1 Squid triple-barrelled depth charge mortar aft (*Shalford* type), others D.C. rails and large and small D.C.
Machinery:	Davey Paxman diesels. Foden engine on centre shaft. Sea speed 18 kts.
Complement:	19

General Notes
An entirely new design of naval vessel, their purpose being to detect, locate and destroy submarines, including midget submarines, in the approaches to defended ports. Their armament includes depth charge release gear and flares. Modern electronic equipment is used in association with their armament. The boats have comprehensive electrical installations. 3101 Series. *Tilford* was launched on 21 Nov. 1956 at Vosper Ltd., Portsmouth; she has main machinery manufactured by Ransomes, Sims & Jefferies Ltd., Ipswich, under licence from Davey Paxman & Co. Ltd., Colchester, and Fodens Ltd., Sandbach, Cheshire.

Photograph Notes
Photograph of *Aberford* in the 1957-58 to 1959-60 editions.

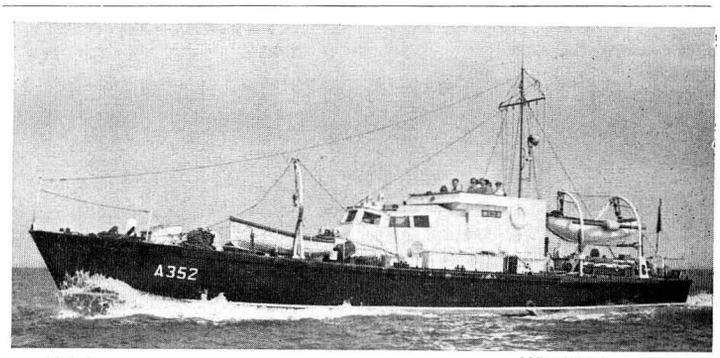
Transfer Notes
Brayford was sold to South African Navy 1954 and *Glassford* in 1955. *Desford* was transferred to the Royal Ceylon Navy in 1955.

R.N.R. Notes
Droxford was attached to the Mersey Division R.N.V.R., and renamed *Dee* (until 1959) when she became tender to H.M.S. *Vincent* at Gosport, *Dubford* to the Clyde Division, and *Greatford* to the Sussex Division.

Recent Disposals
The three remaining motor anti-submarine boats, MA/SB 3001, 3002 and 3053 were scrapped, sold or disposed of in 1958.

Disposals of Earlier Type
Of the two survivors of the seaward defence motor launches, SDML 3515 was presented to the Royal Nigerian Navy in 1959 (see full particulars in the 1959-60 edition), and SDML 3516 was refitted as a special survey craft (see under Motor Launches below).

MOTOR LAUNCHES



MEDA 1959, *Wright & Logan*

2 Harbour (Seaward) Defence Motor Launch Type

MEDA (ex-*SML* 352, ex-*HDML* 1301) **SDML 3516** (ex-*HDML* 1516)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Machinery:	2 Gardner diesels. 2 shafts. B.H.P. 260 to 320=11 to 12 kts.
Complement:	11 to 14

General Notes
Survey Motor Launches. HDML type. *Meda* is employed on South Coast Survey. Square cabin, deckhouse aft. White hull, buff upperworks. Armament removed while employed on surveying duties. SDML 3516 was refitted in 1960 for the East Coast Survey Unit.

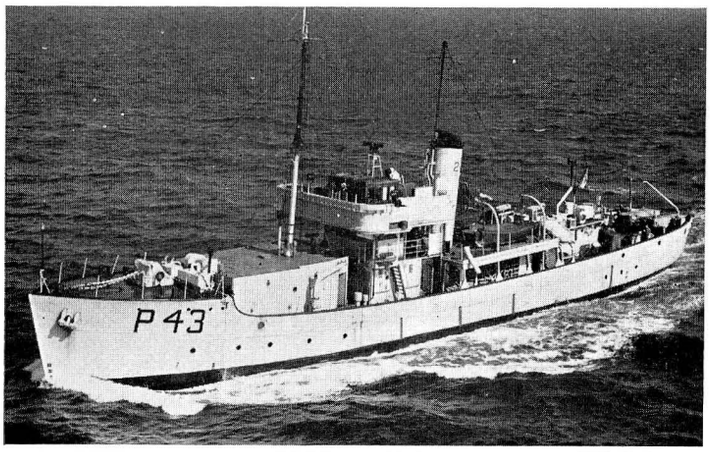
Recent Disposals
SML 327 was discarded in 1957, and SML 322, SML 325 and SML 326 were discarded in 1959. SML 323 (ex-HDML 1081) was transferred to the Persian Navy on 21 June 1956. SML 324 was scrapped in 1960.

Disposals of Motor Launches
Of the three surviving Rescue Motor Launches of the Fairmile " B " Type, RML 496 was scrapped in 1958 and RML 572 and RML 515 disposed of in 1959.

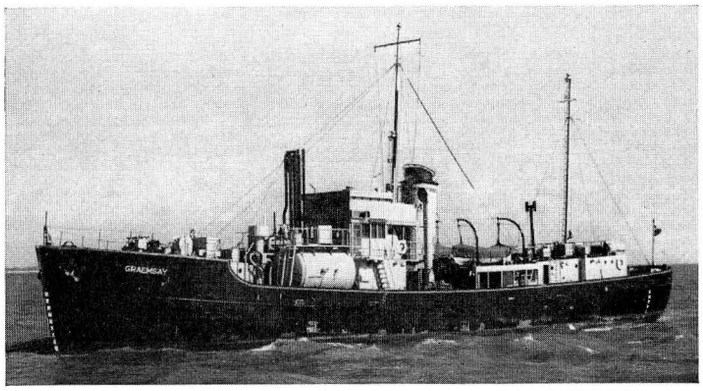
Disposals of Minesweeping Motor Launches
The four remaining Motor Launches, ML 2250, ML 2583, ML 2592 and ML 2840 were de-rated to tenders, target boats, etc., in 1960 or are for disposal. Two Minesweeping Motor Launches, MML 2217 and MML 2223, were transferred to Nigeria in 1960.

Disposals of Motor Minesweepers
Of the surviving Motor Minesweepers MMS 1556 and MMS 1579 were disposed of in 1960, and MMS 1632 and MMS 1654 are yard craft in Bombay.

TRAWLERS



FETLAR (anti-sumbarine type, " P " Pennant No.) 1960, *Skyfotos*



GRAEMSAY (tank cleaning type " A " Pennant No.) *Added* 1959, *Official*

19 " Isles " Class

2 Ardrossan Dockyard Co. Ltd., Ardrossan

COLL	7 Apr.	1942
GRAEMSAY	3 Aug.	1942

2 Cochrane & Sons Ltd., Selby

FETLAR	10 July	1941
RONAY	15 Feb.	1945

8 Cook, Welton & Gemmel Ltd., Beverley

BERN	2 May	1942
FLATHOLM	8 May	1943
LUNDY	29 Aug.	1942
SANDRAY	5 Oct.	1944
SURSAY	16 Dec.	1944
TAHAY	31 Dec.	1944
VACEASAY	17 Mar.	1945
WIAY	26 Apr.	1945

1 Fleming & Ferguson Ltd., Pailsley

BARDSEY	7 July	1943

1 Goole Shipbuilding & Repair Co. Ltd.

TIREE	6 Sep.	1941

1 A. & J. Inglis Ltd., Glasgow

SWITHA	3 Apr.	1942

4 John Lewis & Sons Ltd., Aberdeen

CALDY	31 Aug.	1943
FOULNESS	23 Mar.	1943
SKOMER	17 June	1943
STEEPHOLM	15 July	1943

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27½ × 14 feet
Guns:	3—20 mm. (Removed from those used for wreck dispersal and tank cleaning)
Machinery:	Triple expansion. 1 Shaft. I.H.P.: 850=12 kts.
Boiler:	1 cylindrical
Coal:	183 tons
Radius:	4,200 miles at 8 kts.
Complement:	45

General Notes

Launch dates above. *Fetlar*, *Flatholm*, *Steepholm* and *Tiree* are rated as A/S, MS (Anti-Submarine and Minesweeping Trawlers); *Ronay*, *Sandray*, *Sursay*, *Tahay*, *Vaceasay* and *Wiay* are rated as Danlayers.

Bardsey, *Bern*, *Caldy*, *Coll*, *Foulness*, *Graemsay*, *Lundy*, *Skomer* and *Switha* have been converted to tank cleaning vessels which are classed as auxiliaries and have " A " pennant numbers.

Transfer Notes

Four were transferred to the Royal New Zealand Navy and six to the Portuguese Navy; others sold to Italy.

Second World War Losses

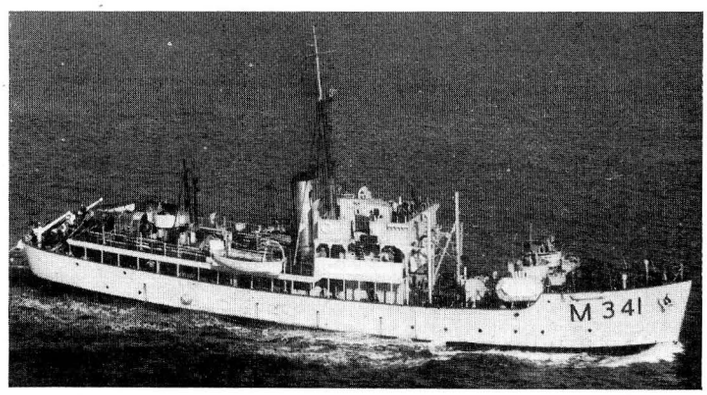
Brora, *Campobello*, *Gairsay*, *Ganilly*, *Orfsay*, *Rysa*, *Stronsay* and *Wallasea*.

Recent Disposals

Scrapped: *Bryher* and *Oronsay*. *Annet* was sold in 1957.
Imersay, *Shillay*, *Tocogay*, *Trodday* and *Vallay* were scrapped in 1958.
Lindisfarne, *Sheppey* and *Skye* were sold in 1958. *Gorregan*, *Orsay* and *Trondra* were disposed of in 1959. *Damsay* and *Gateshead* were scrapped in 1960.

Sandray is on the sales list, and *Fetlar*, *Flatholm*, *Steepholm* and *Tiree* were also earmarked for disposal in 1960.

Trawlers—*continued*



WIAY (Minesweeper type, " P " Pennant No.) *Skyfotos*

1 "Shakespearian" Class

ROSALIND

Displacement:	545 tons *standard* (770 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27⅝ × 11 feet
Guns:	1—4 inch AA., 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 950=12 kts
Boiler:	1 cylindrical
Fuel:	180 tons coal
Radius:	4,000 miles at 8 kts.
Complement:	50

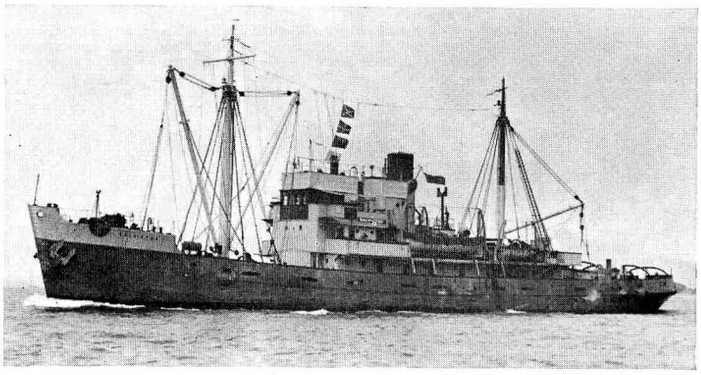
General Notes

Pennant No. P 05. Built by A. & J. Inglis Ltd., Glasgow. Engined by Aitchison Blair Ltd. Laid down on 10 Oct. 1940. Launched on 3 May 1941. Completed on 18 Oct. 1941. Officially classified as a minesweeping trawler. At Mombasa. On loan to the Royal East African Navy as a training ship, but is now nearing the end of her useful life and has been replaced by the new inshore minesweeper *Bassingham*.

Photograph Notes

Photograph of *Rosalind* in the 1955-56 to 1957-58 editions. Photograph of *Steepholm* in the 1958-59 and 1959-60 editions.

OCEAN SALVAGE VESSELS



SALVICTOR *Added* 1960, *Wright & Logan*

6 " Sal " Class

PRINCE SALVOR	**SALVESTOR**	**SALVIGIL**
SALVALOUR	**SALVICTOR**	**SEA SALVOR**

Displacement:	1,440 tons *standard* (1,700 tons *full load*)
Dimensions:	200¼ (*pp.*), 216 (*o.a.*) × 37¾ × 13 (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,500=12 kts.
Oil fuel:	310 tons
Complement:	52 to 72

General Notes

Ocean salvage vessels classed as Royal Fleet Auxiliaries. All launched in 1942-45. *Sea Salvor* was built by Goole Shipbuilding & Repair Co. Ltd. and launched on 22 Apr. 1942. *Salvage Duke*, formerly on charter to Turkish Salvage Administration (renamed *Imroz*), was gutted by fire in 1959.

Transfer Notes

Salventure is on loan to Greece. *Prince Salvor*, *Salvalour*, *Salvigil* and *Salveda* are on charter to private firms.

Conversion Notes

King Salvor was converted to a submarine rescue bell ship in 1953-54 and renamed *Kingfisher*

Recent Disposals

Ocean Salvor and *Salviola* were disposed of in 1960.

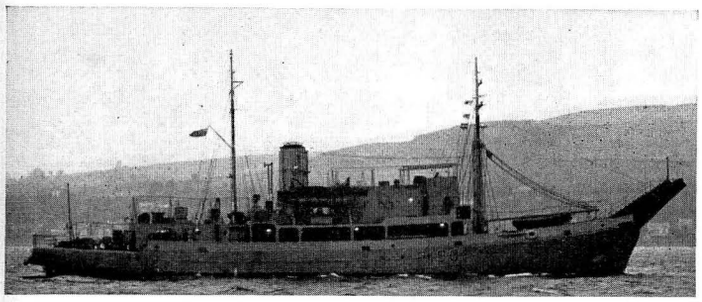
SALVEDA

Displacement:	1,250 tons *standard* (1,360 tons *full load*)
Dimensions:	184 (*pp.*), 194 (*o.a.*) × 34½ × 11¼ (*mean*) feet
Guns:	4—20 mm.
Machinery:	H.P.: 1,200=12 kts.
Oil fuel:	150 tons
Complement:	62

Notes

Royal Fleet Auxiliary ocean salvage vessel on charter to Metal Industries Ltd.

BOOM DEFENCE VESSELS (*Netlayers*)



LAYMOOR 1960, *Official*

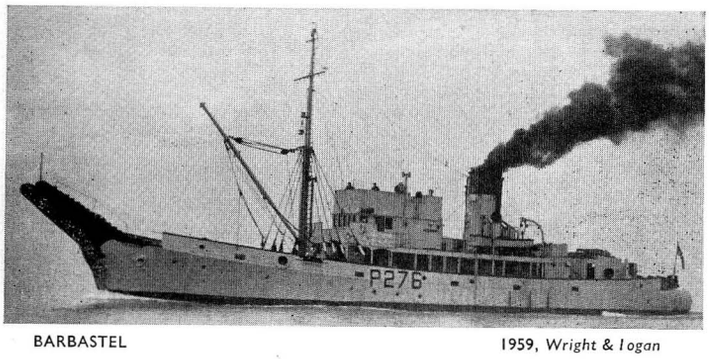
2 "Lay" Class
New Construction

LAYBURN **LAYMOOR**

Displacement:	1,000 tons
Dimensions:	160 (*pp.*), 193 (*o.a.*) × 34½ × 18 (*depth*) feet
Machinery:	Steam reciprocating. 2 shafts. I.H.P.: 3,000 = 14 kts.
Boilers:	2
Complement:	2 officers, 29 ratings

Notes
Built by Wm. Simons & Co. Ltd., Renfrew. *Laymoor*, which cost £562,000, was launched on 6 Aug. 1959 and accepted by the Royal Navy on 9 Dec. 1959. In addition to minor salvage work and the towing of net sections, she can lay and maintain the latest types of underwater and surface boom defences, first class moorings and navigational buoys. Accommodation on board was designed for either naval or civilian manning, and includes separate sleeping and dining spaces.

Laymoor is the first and the "name" ship of her class, which will eventually replace the wartime built "Bar" class which are of similar size. *Layburn* was launched on 14 Apl 1960 and completed on 6 July 1960. Their lifting capacity is very much greater than that of their predecessors, and mprovements in the standards of accommodation enable them to be comfortably operated both in the tropics and in cold climates.



BARBASTEL 1959, *Wright & Logan*

47 "Bar" Class

4 *Ardrossan Dockyard Co. Ltd., Ardrossan*

BARBECUE	19 Dec.	1944
BARCAROLE	14 Mar.	1945
BARHOLM	31 Dec.	1942
BARTIZAN	20 May	1943

11 *Blyth D.D. & S.B. Co.*

BARBAIN	8 Jan.	1940
BARBETTE	15 Dec.	1937
BARBICAN	14 Mar.	1938
BARCASTLE	23 July	1938
BARCLOSE	9 July	1941
BARCOCK	3 Sep.	1941
BARCOTE	8 Feb.	1940
BARDOLF	14 Apr.	1942
BARLAKE	16 Sep.	1940
BARNEHURST	21 Oct.	1939
BARNSTONE	25 Nov.	1939

4 *Ferguson Bros. Ltd., Port Glasgow*

BARHILL	26 Nov.	1942
BARKIS	29 Mar.	1945
BARSPEAR	25 Mar.	1943
BARWIND	22 Sep.	1943

2 *Hall, Russell & Co. Ltd., Aberdeen*

BARRAGE	2 Dec.	1937
BARRANCA	18 Jan.	1938

2 *Charles Hill & Sons Ltd., Bristol*

BAROVA	5 July	1941
BARRIER (ex-*Bargate*)	17 May	1938

1 *Goole Shipbuilding & Repair Co. Ltd.*

BARCROFT		

5 *John Lewis & Sons Ltd., Aberdeen*

BARFIELD	28 July	1938
BARFOOT	25 Sep.	1942
BARGLOW	9 Nov.	1942
BARLEYCORN	6 Mar.	1943
BARNARD	1 July	1942

5 *Lobnitz & Co. Ltd., Renfrew*

BARBRIDGE	18 Aug.	1941
BARCLIFF (ex-*Barwick*)	10 May	1940
BARKING	25 Sep.	1941
BARNDALE	30 Nov.	1939
BARTHORPE	22 Mar.	1940

2 *Philip & Son Ltd., Dartmouth*

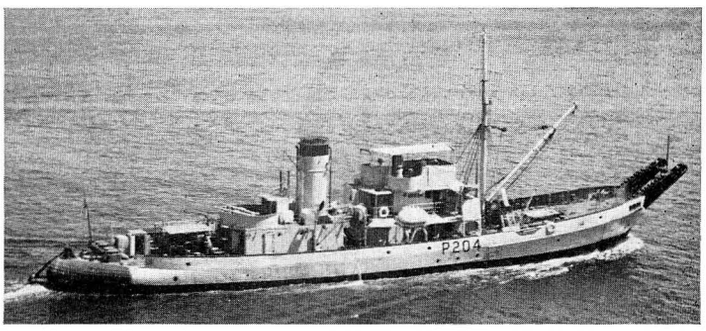
BARBASTEL	26 July	1945
BARFOIL	18 July	1942

11 *Wm. Simons & Co. Ltd., Renfrew*

BARBOURNE	4 May	1942
BARFOAM	8 Sep.	1941
BARFOSS	17 Feb.	1942
BARFOUNT	5 Jan.	1942
BARMOND	24 Dec.	1942
BARMOUTH	11 Oct.	1938
BARNABY	8 Mar.	1943
BARRHEAD	17 Oct.	1940
BARRINGTON	15 Nov.	1940
BARSING	31 Mar.	1941
BARSOUND	25 May	1941

Displacement:	750 tons *standard* (919 to 1,000 tons *full load*)
Dimensions:	150 (*pp.*), 173¾ (*o.a.*), 182 (*horns*) × 32¼ × 9½ (11½ *max.*) feet
Guns:	1—3 inch AA. (war). No guns in peacetime
Machinery:	Triple expansion. I.H.P.: 850=11·75 kts. Sea speed 9 kts.
Boilers:	2 S.E. (200 lbs. per sq. in.)
Complement:	32
Fuel:	214 tons coal

Boom Defence Vessels—*continued*



BARHILL 1958, *A. & J. Pavia*

"Bar" Class—*continued*

General Notes
Built under the 1935, 1936, 1937, 1939 and Second World War Estimates. These vessels have a bow lift of 27 to 70 tons. Launch dates are given after their names above. *Barnehurst* was returned from the Royal Netherlands Navy in 1955. *Barglow* was brought forward from reserve in 1951 and manned by a civilian crew to survey wrecks in the Dover Straits. Second World War losses: *Barflake*, *Barlight*.

Photograph Notes
Photographs of *Barfoss* in the 1957-58 edition, of *Barndale* in the 1951-52 to 1957-58 editions, and of *Martinet* in the 1951-52 to 1958-59 editions.

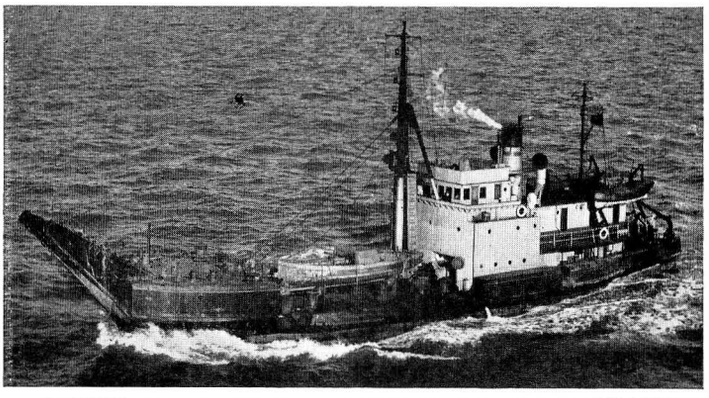
Class Notes
Barilla and *Barndale* were used for Ship Target Trials in 1949-50. *Barstoke* was transferred to Burma (on loan to the Rangoon Port Commission since 1946) but was returned to the Royal Navy at the end of 1959 at Singapore and put up for sale in 1960. *Barbour*, *Bardell* and *Barricade* were discarded.

Transfer Notes
Two of this class were transferred to the South African Naval Force, and three to the Turkish Navy. *Barcock* was on charter to Belgium, but was returned to the Royal Navy on 24 Aug. 1949. *Baron* was transferred to Ceylon in 1958 (purchased by the Colombo Port Commission).

Recent Disposals
Barberry, *Barbrook*, *Barcombe*, *Barford*, *Baritone*, *Barlane*, *Barlow*, *Barmill*, *Barneath* and *Barnwell* were deleted from the Navy List in 1958. *Barilla* and *Baronia* were discarded in 1959, and *Barlake* and *Barranca* have also been earmarked for disposal.

"Net" Class

Disposal Notes
All the ten units of this class have been scrapped or sold, or are earmarked for disposal in the near future.
The *Plantagenet* was sold to Metal Industries Salvage as a salvage vessel in 1959.



MOORESS *Added* 1960

17 "Moor" Class

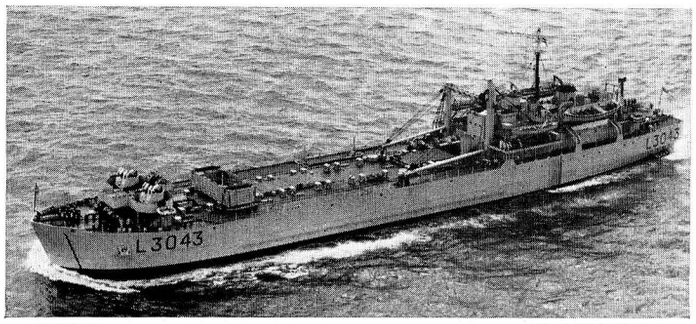
MOORBURN	**MOORFLY**	**MOORLAND**
MOORCOCK	**MOORFOWL**	**MOORMYRTLE**
MOORDALE	**MOORGRASS**	**MOORPOUT**
MOORESS	**MOORGRIEVE**	**MOORSIDE**
MOORFIELD	**MOORHEN**	**MOORSMAN**
MOORFIRE	**MOORHILL**	

Displacement:	1,000 tons *standard* (1,510 tons *full load*) approximate
Dimensions:	196 × 30 × 10 feet (see *Notes*)
Machinery:	I.H.P.: 500=9 kts.

General Notes
Built in 1938-46. Displacements and dimensions vary from ship to ship. Employed as Boom Defence Vessels, Boom Working Vessels, Mooring Vessels and Salvage Vessels. Fitted with salvage pumps, air compressors and diving equipment. *Moorsman* and *Moorpout* are of the large type built by H.M. Dockyard, Chatham. Most of the others, including *Moorcock* and *Moorland* were built by Goole Shipbuilding & Repair Co. Ltd.

Photograph Notes
Photograph of *Moorhen* in the 1951-52 to 1959-60 editions.

TANK LANDING SHIPS



MESSINA *Added* 1960, *Skyfotos*

2 LST (C) Type

MESSINA (ex-*LST* (*C*) 3043) **NARVIK** (ex-*LST* (*C*) 3044)

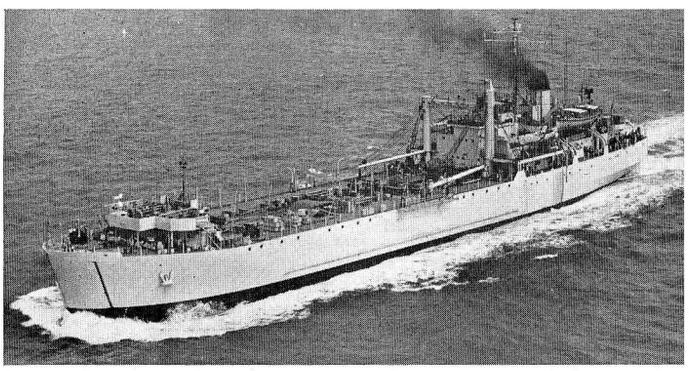
Displacement:	2,256 tons *light* (4,980 tons *full load*)
Dimensions:	3456 (*o.a.*) × 54 × 4½ (forward), 11½ (*max.*) (aft) feet (Beaching draughts)
Guns:	10—20 mm. Oerlikon AA. (*Messina* 4—40 mm. Bofors AA. and 20 mm.)
Machinery:	Triple expansion steam reciprocating. 2 shafts. I.H.P.: 5,500=13 kts.
Boilers:	2 three-drum type
Oil fuel:	1,400 tons
Complement:	105

General Notes

Can carry 1 LCT, 5 LCA, 15 40-ton tanks, 15 lorries. *Narvik* was the flagship of the task force for the atomic test in Monte Bello Islands in 1956. She was earmarked for disposal in 1960, but her future was reconsidered and she was fitted out as a submarine support ship at Chatham to relieve the submarine depot ship *Fotrh* serving the First Submarine Squadron in the Mediteranean. *Messina* took part in the nuclear test at Christmas Island in 1956-58, and was converted to an LST(A) in 1960 for service in a new Amphibious Warfare Squadron.

Photograph Notes

A larger photograph of *Narvik* appears in the 1952-53 to 1959-60 editions.



LST *Added* 1960

1 LST (Q) Type

BEN NEVIS (L 3101, ex-*LST* (*Q*) 1, ex-*LST* (3) 3012)

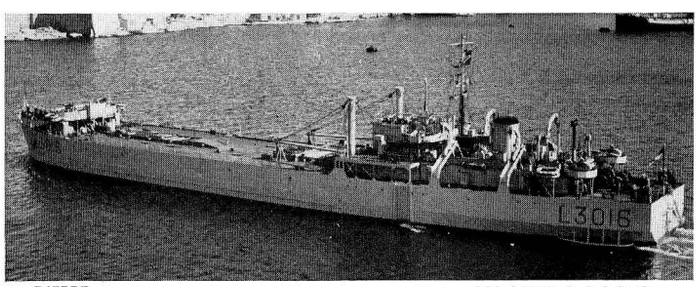
Displacement:	2,140 tons *light* (4,820 tons *full load*)
Dimensions:	330 (*pp.*), 347½ (*o.a.*) × 55¼ × 4½ (forward), 12 (*max.*) feet
Guns:	4—40 mm. and 20 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=13 kts.
Boilers:	2 three-drum type
Oil fuel:	1,400 tons
Complement:	100

General Notes

Ben Nevis was designated as a Harbour Accommodation Ship in 1958, and is based at Faslane.

Recent Disposal

Sister ship *Ben Lomond* was sold out of the Service in 1960 (photograph in the 1956-57 to 1959-60 editions).

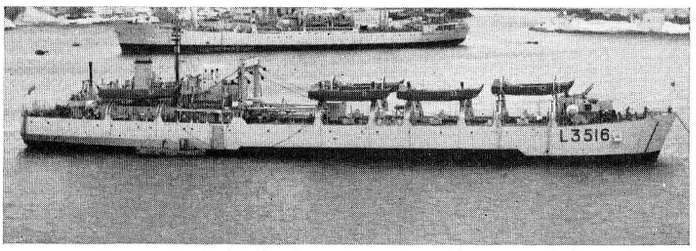


DIEPPE *Added* 1960, *A. & J. Pavia*

6 LST (3) Type

DIEPPE (ex-*LST* (3) 3016)
LOFOTEN (ex-*LST* (3) 3027)
ZEEBRUGGE (ex-*LST* (3) 3532)
STALKER (ex-*LST* (3) 3515)
STRIKER (ex-*LST* (A) 3516)
TRACKER (ex-*LST* (3) 3522)

Tank Landing Ships—*continued*



STRIKER 1960, *A. & J. Pavia*

LST (3) Type—*continued*

Displacement:	2,140 tons *light* (5,000 tons *full load*)
Dimensions:	330 (*pp.*), 347½ (*o.a.*) × 55¼ × 4 7/12 (forward), 12 (*max.*) feet
Guns:	8—20 mm. Oerlikon AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=13 kts. (10 kts. cruising)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	1,400 tons
Complement:	115 (*Striker* 152)

General Notes

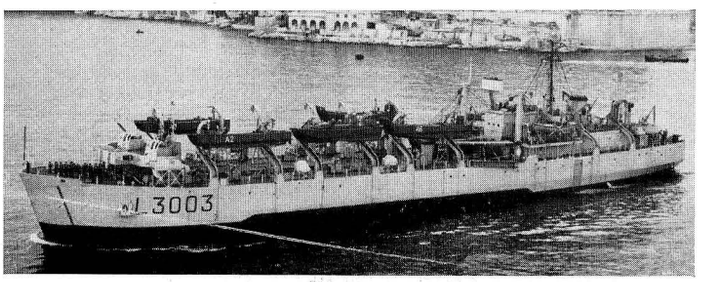
Striker is a Landing Ship Tank (Assault). *Bruiser* and *Searcher* were scrapped. *Avenger* was transferred to the Indian Navy. *Smiter* was wrecked off Lagos on 25 Apr. 1949. *Attacker* was renamed *Empire Cymric* on commercial charter in 1954. *Stalker* was designated as a submarine support ship in 1958. *Lofoten*, *Tracker* and *Zeebrugge* were designated as harbour accommodation ships in 1958. *Hunter* was handed over to the Ministry of Transport and Civil Aviation.

Transfer Notes

Avenger was transferred to the Indian Navy and renamed *Magar*.
On commercial charter *Charger* became *Empire Nordic*, *Fighter* became *Empire Grebe*, *Hunter* became *Empire Curlew*, *Trouncer* became *Empire Gull*, *Trumpeter* became *Empire Fulmar* and *Walcheren* became *Empire Guillemot*.

Recent Disposals

Reggio (the first Landing Ship Tank (Assault)), photograph in the 1952-53 to 1959-60 editions, *Salerno* and *Suvla* were for disposal in 1960.



ANZIO 1960, *A. & J. Pavia*

3 LST (A) Type

ANZIO (ex-*LST* (A) 3003) **LST (3) 3031**
CHASER (ex-*LST* (3) 3029)

Displacement:	2,140 tons *light* (5,000 tons *full load*)
Dimensions:	330 (*pp.*), 347½ (*o.a.*) × 55¼ × 4 7/12 (forward), 12 (*max.*) feet
Guns:	7 or 8—20 mm. Oerlikon AA., 4—40 mm. forward; *Anzio* 6—40 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=13 kts. (10 kts. cruising)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	1,400 tons
Complement:	115

General Notes

Can carry 10 tanks plus 15 vehicles. All the above ships were allocated for conversion to LST (A). All were stiffened to carry heavy tanks. *Anzio* was converted to LST (A) in 1955-56. *Chaser* was designated as a submarine support ship in 1958. *LST* (3) 3031 was an A.A. Firing ship but is now a Mechanical Training Ship administered by H.M.S. Sultan, Gosport.

Nomenclature Notes

All the " Empire " names above were given to *LSTs* taken over by the Ministry of Transport and Civil Aviation at the time of the Suez action in 1956. All the " Empire " named LSTs have no armament.

Class Notes

LST (3) 3001, 3009, 3021, 3024, 3028, 3037 and 3509 are on charter to War Office, and LST (3) 3010, *Empire Cymric*, LST (3) 3041, *Empire Doric*, LST (3) 3507, *Empire Gaelic*, LST (3) 3512, *Empire Celtic*, LST (3) 3519, *Empire Baltic* and LST (3) 3534, *Empire Cedric* (3507, 3519 and 3534 are for disposal) are on commercial charter through the Ministry of Transport: they are available for recall in emergency. LST (3) 3002, 3007, 3020, 3503 and 3506 are on loan to the Royal Hellenic Navy. LST 322 returned from Royal Hellenic Navy May 1953.

Recent Disposals

Vagso was scrapped in 1960, and *Puncher* and *Ravager* are also for disposal.

Transfer Notes

On commercial charter *Battler* became *Empire Puffin* (now on loan to the Ministry of Transport and for disposal), *Pursuer* became *Empire Term*, *St. Nazaire* became *Empire Skua*, *Slinger* became *Empire Kittiwake*, *Thruster* became *Empire Petrel*, *Tromso* became *Empire Gannet* and LST (3) 3033 became *Empire Shearwater* (on loan to the Ministry of Transport).

LANDING CRAFT



RAMPART (deckhouse forward, lattice mast aft) *Added 1960, A. & J. Pavia*



ARROMANCHES *Added 1960, A. & J. Pavia*

Major Landing Craft

20 LCT (8) Type

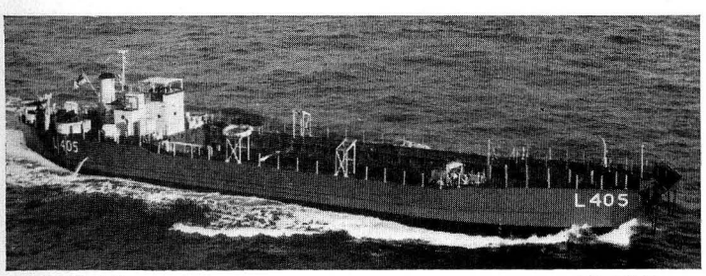
ARROMANCHES (ex-*LCT* (8) 4086) **LCT (8) 4002**
BASTION (ex-*LCT* (8) 4040) **LCT (8) 4041**
BUTTRESS (ex-*LCT* (8) 4099) **LCT (8) 4061**
CITADEL (ex-*LCT* (8) 4038) **LCT (8) 4062**
COUNTERGUARD (ex-*LCT* (8) 4043) **LCT (8) 4073**
PARAPET (ex-*LCT* (8) 4039) **LCT (8) 4074**
PORTCULLIS (ex-*LCT* (8) 4044) **LCT (8) 4085**
RAMPART (ex-*LCT* (8) 4037) **LCT (8) 4097**
REDOUBT (ex-*LCT* (8) 4001) **LCT (8) 4128**
SALLYPORT (ex-*LCT* (8) 4064) **LCT (8) 4164**

Displacement: 657 tons *light*, 895 tons (*loaded*)
Dimensions: 225 (*pp.*), 231¼ (*o.a.*) × 39 × 3¾ (forward), 5 7/12 (aft) feet (Beaching Draughts)
Machinery: 4 Paxman engines. B.H.P.: 1,840=12·6 kts. (9 kts. cruising)
Complement: 33

General Notes
Bastion, *Rampart* and *Redoubt* have lattice mast (see photo). *Rampart* has deckhouse forward. *Arromanches* has a large trellis or lattice mast forward. *Arromanches* and *LCT* (8) 4002, 4041, 4061, 4062, 4073, 4074, 4085, 4097, 4128 and 4164 are on loan to the War Office. *LCT* (8) 4063, *Jawada*, on loan to a commercial company, is for disposal at Bahrein.

Photograph Notes
Photograph of *Redoubt* in the 1956-57 to 1959-60 editions.

Recent Disposals
LCT (8) 4042, 4045, 4050, 4148, 4156 and 4165 were stricken from the list in 1958, and *LCT* (8) 4025, 4049, 4063 and 4098 were stricken from the list in 1960.



LCT (4) 405 *Added 1960*

2 LCT (4) Type

LCT (4) 403 (ex-1220) **LCT (4) 406** (ex-941)

Displacement: 350 tons *standard*, 586 tons (*loaded*)
Dimensions: 187½ × 38¾ × 3½ (forward), 4½ (aft) feet
Guns: 2—20 mm. AA.
Machinery: B.H.P.: 920=10 kts.
Complement: 12

General Notes
LCT (4) 404 and *LCT* (4) 407 were in the Rhine Squadron. The other (*LCT* 403, 405, 406, 408) were lent to the Air Ministry. Can carry nine 40-ton tanks or 500 fully equipped men. *Sri Melaka* (ex-*Malaya*, ex-*MRC* 1401, ex-*LCT* (E) 341) was lent to the Royal Malayan Navy. *MRC* 1413 (ex-*LCT* (E) 413) particulars similar to LCT (4) type. *Sri Perlis* (ex-*Pelandok*, ex-*LCG* (L) 450) was also lent to the Royal Malayan Navy. *LCT* (4) 1312 was transferred to the Royal Nigerian Navy.

Photograph Notes
Photograph of *LCT* (4) 407 in the 1951-52 to 1959-60 editions.

Recent Disposals
LCT (4) 404 (ex-1231), *LCT* (4) 405 (ex-523) and *LCT* (4) 407 (ex-1106) were scrapped in 1960. *LCT* (4) 408 (ex-1202) is for disposal with *LCT* (4) 1274 and *LCT* (4) 1283 (on the sale list).

Landing Craft—*continued*

Minor Landing Craft

38 LCM (7). 7,000 Series

Displacement: 28 tons *light* (63 tons *loaded*)
Dimensions: 60½ × 16 × 3¾ feet
Machinery: B.H.P.: 290=9·8 kts.

General Notes
There are 38 LCM (7s) ranging from No. 7007 to 7215. LCM (7) 7007, 7076, 7083, 7118, 7119, 7121, 7124, 7186, 7209 and 7214 were in the Rhine Squadron.

Engineering Notes
Some were re-engined with Gray Marine units.

101 LCA. 100 Series and 1,000 Series

Displacement: 8·5 tons *light* (13·5 tons *full load*), LCA (2)s 11·5 tons *light*
Dimensions: 41½, LCA (2)s, 43 × 10 × 2½ feet
Machinery: B.H.P.: 130=8 kts.

General Notes
There are 32 LCA (2)s, Nos. 101 to 132, and 69 LCA (1)s ranging from No. 1040 to No. 1981, including 13 on loan to the Royal Hellenic Navy. Nineteen LCA (1) were in the Rhine Squadron There are also a number of variations and prototypes of about the same length (43 feet): Raiding Landing Craft, including LCR 5507 and 5508, and Navigational Landing Craft, including LCN 604 (ex-LCR 5505).

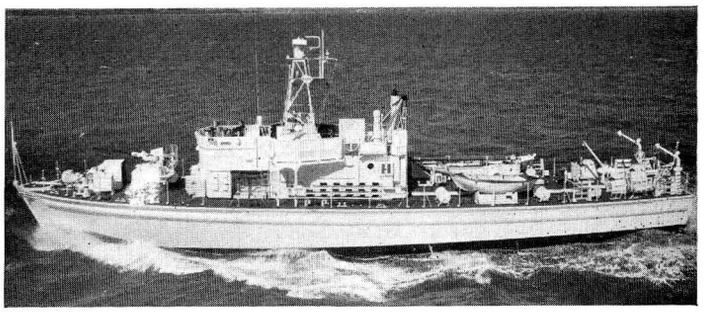
13 LCP (L) 1, 2 and 3. 500 Series

Displacement: 6·5 tons *light* (10 tons *loaded*)
Dimensions: 37 × 11 × 3½ feet
Machinery: B.H.P.: 225=12 kts.

General Notes
There are 10 LCP (L)s ranging from No. 519 to No. 561, see details above, one LCP (L)2, No. 501, and two LCP (L) 3s, Nos. 502 and 503.

Engineering Notes
Aurora gas turbines have been installed in LCP (L) 3 No. 502.

INSHORE SURVEY CRAFT



ECHO (as built with gun) *Added 1960, Official*

3 "E" Class
(*Inshore Minesweeper Type*)

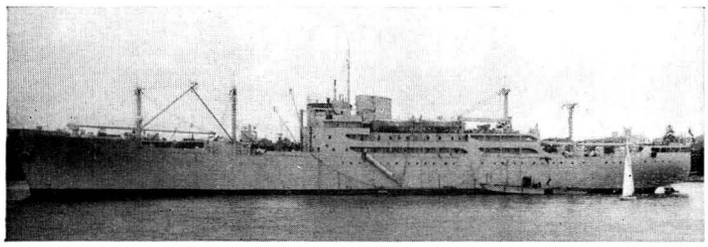
ECHO A 70 **EGERIA A 72** **ENTERPRISE A 71**

Displacement: 160 tons
Dimensions: 106⅝ (*o.a.*) × 21 11/12 × 5 feet
Machinery: 2 Paxman diesels. 2 shafts. Controllable pitch propellers. B.H.P.: 700=14 kts. (*max.*), 12 kts (*normal*)
Oil fuel: 15 tons
Complement: 18 (2 officers, 16 ratings)

General Notes
Echo, the first of the new class of Inshore Survey Craft, was launched from the yard of J. Samuel White & Co. Ltd., Cowes, on 1 May 1957, and commissioned on 12 Sep. 1958.
J. Samuel White & Co. Ltd. are the hull builders. It is of all-wood construction in which extensive use has been made of glued laminated members. The main machinery manufacturers are Davey Paxman & Co Ltd., Colchester.
She carries no armament; but she was fitted with a 40 mm. gun for trials (see photograph above) and retains her gun seat. In wartime she could be used as an armed inshore minesweeper on which her design was based.
Egeria was built by Wm. Weatherhead & Sons Ltd., Cockenzie, and *Enterprise* was built by M. W. Blackmore & Sons Ltd., Bideford.
All three of these craft were built to carry out coastal and harbour hydrographic surveys for the Hydrographer of the Navy around the coasts of the British Isles. The prime requirements of such craft are ability to navigate in shoal water, to obtain depths and detect the existence of wrecks or obstructions on the sea bed, coupled with the ability to fix the position of the craft with accuracy.
They are equipped with two echo sounding machines and asdics for wreck location, and carry surveying equipment for carrying out triangulation ashore, which provides the basis for fixing the crafts' position afloat, by horizontal sextant angles. They also have the most modern radar, with facilities for measuring ranges accurately for position fixing; and are also fitted with wire sweep gear for finding the minimum depths over wrecks and similar obstructions. Their crews include two surveying officers and four surveying ratings.
These Inshore Survey Craft are self-contained units having their own echo sounding launch for shallow survey work and a modern chart room for survey plotting and compilation.
These vessels will replace the Surveying Motor Launches which were built in the early 1940s as harbour defence launches.

Photograph Notes
A larger aerial photograph of *Echo*, as modified without armament, appears in the 1959-60 edition.

FLEET SUPPLY SHIPS



RELIANT — 1960, *courtesy Mr. J. C. Jeremy*

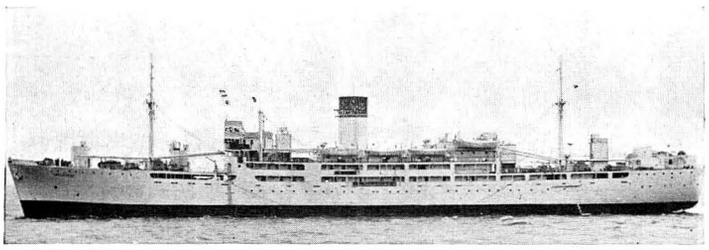
3 " Re " Class
(Rated as Fast Replenishment Ships)

RELIANT (ex-*Somersby*)

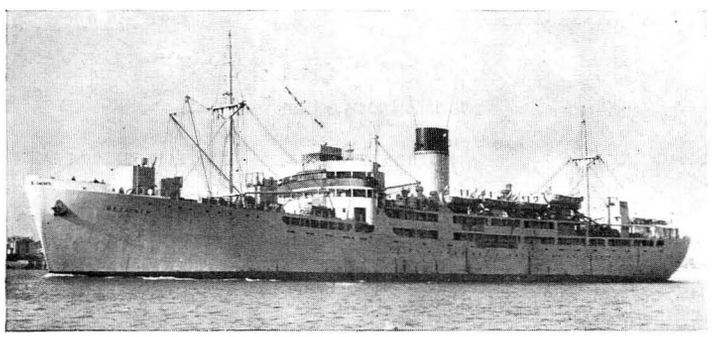
Displacement:	13,730 tons
Measurement:	9,290 tons *deadweight* (summer)
Dimensions:	468 5/12 (*o.a.*) × 61½ × 26¼ feet
Machinery:	Doxford Diesel by Hawthorn Leslie. B.H.P.: 8,250=18 kts.
Complement:	110 officers and men

General Notes
Built by Sir James Laing & Sons Ltd., Sunderland. Completed in 1954. Formerly a grain carrier which traded for two years, working between the Gulf of Mexico and the United Kingdom, before she was purchased by the Admiralty from the Ropner Shipping Company and converted for her new role at North Shields. Sailed from Chatham on 4 Nov. 1958 for the Far East to take up duty as the Royal Navy's first air-stores issuing ship capable of replenishing aircraft carriers at sea. She has an endurance of 50 days' steaming at 16 knots, and carries 40,000 different patterns of aircraft spares and general naval stores. She has six holds and the latest automatic tensioning winch for transfer of stores to aircraft carriers in unfavourable weather. She is fully air-conditioned for service in the tropics. Her conversion was based on the concept that aircraft carriers should be able to spend more time at sea, independent of shore bases. Rated as a Royal Fleet Auxiliary. Originally named *Somersby*. Renamed *Reliant* in 1958. Pennant No. A84.

Photograph Notes
A larger, starboard bow, view of *Reliant* appears in the 1959-60 edition.



RESURGENT — 1960, *Official*



RETAINER — *Added* 1960, *Wright & Logan*

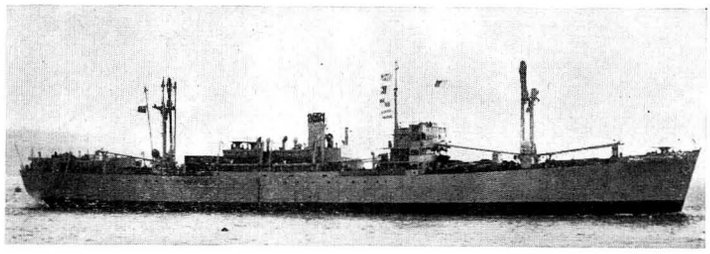
RESURGENT (ex-*Changchow*) **RETAINER** (ex-*Chungking*)

Displacement:	14,000 tons (approx.) official estimate
Measurement:	*Resurgent*, 9,403 tons *gross*. *Retainer*, 9,393 tons *gross*
Dimensions:	477½ (*o.a.*) × 62⅔ × 25 (29 *max.*) feet
Machinery:	Diesel 1 shaft. B.H.P.: 6,500

General Notes
Former passenger and cargo motor vessels, both built for China Navigation Co. by Scott's Shipbuilding and Engineering Co., Greenock, completed in 1951 and 1950, respectively. *Retainer* was formerly a passenger and cargo liner working along the China coast. Purchased by Admiralty in 1952 and converted into a naval storeship during autumn 1954-April 1955 by Palmers Hebburn Co. Ltd., where further conversion was carried out Mar-Aug. 1957 (originally scheduled for Sep. 1956-early 1957, but postponed) to extend her facilities as a stores ship, including the fitting out of holds to carry naval stores, the installation of lifts to remove such stores, the provision of extra cargo handling gear and new bridge wings. *Resurgent* was taken over by Admiralty on completion for employment as a fast fleet replenishment ship. Rated as Royal Fleet Auxiliaries. Pennant Nos. A280 and A329, respectively.

Photograph Notes
A larger, port bow, view of *Retainer* appears in the 1955-56 to 1959-60 editions; and a larger starboard broadside view of *Resurgent* appears in the 1959-60 edition.

Fleet Supply Ships—*continued*



FORT DUNVEGAN — 1960, *Tom Molland Ltd.*

8 " Fort " Class

FORT BEAUHARNOIS **FORT DUNVEGAN** **FORT ROSALIE**
FORT CHARLOTTE **FORT DUQUESNE** **FORT SANDUSKY**
FORT CONSTANTINE **FORT LANGLEY**

Displacement:	9,788 tons
Dimensions:	424½ × 57 × 27 feet
Machinery:	Triple expansion. I.H.P.: 2,500=11 kts.
Boilers:	2 Babcock & Wilcox

General Notes
All launched in 1944. *Fort Beauharnois*, *Fort Constantine* and *Fort Dunvegan* are Store Carriers; *Fort Charlotte* and *Fort Duquesne* (helicopter landing platform aft) are Naval Store and Victualling Store Issuing Ships. *Fort Langley*, *Fort Rosalie* and *Fort Sandusky* are Armament Store Issuing Ships. These ships are Royal Fleet Auxiliaries, except for *Fort Langley*, which was officially listed as a Merchant Fleet Auxiliary. They are similar in type to the Maintenance Ships of the " Mull " and " Head " classes, see earlier page.

Photograph Notes
A larger, port bow, photograph of *Fort Duquesne* appears in the 1953-54 to 1958-59 editions, and a larger starboard broadside view of *Fort Dunvegan* appears in the 1959-60 edition.

STORE CARRIERS

THOMAS GRANT

Displacement:	409 tons
Dimensions:	113½ × 25½ × 10 feet
Machinery:	2 diesels. Speed=9 kts.

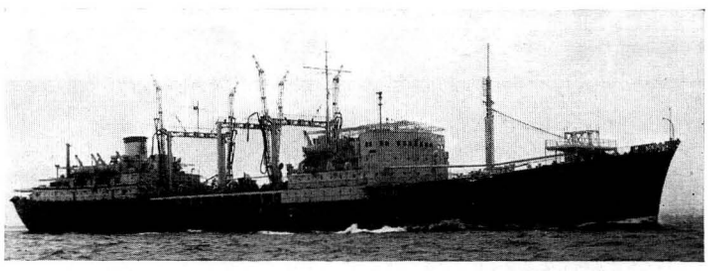
Notes
Completed in 1953. Photograph of *Thomas Grant* in 1957-58 and earlier editions. Stricken from the Navy List in 1960.

ROBERT DUNDAS (28 July 1938) **ROBERT MIDDLETON** (29 June 1938)

Displacement:	900 tons
Measurement:	1,000 tons *deadweight*
Dimensions:	210 × 35 × 13½ (*mean*) feet
Machinery:	Atlas Polar Diesel. 1 shaft. B.H.P.: 960=10·5 kts.
Oil fuel:	60 tons
Complement:	17

Notes
Both built by Grangemouth Dockyard Co. Ltd. Machinery by British Auxiliaries Ltd., Govan. Launch dates above.

FAST FLEET REPLENISHMENT SHIPS



TIDESURGE — *Added* 1960 *Wright & Logan*

3 " Tide " Class

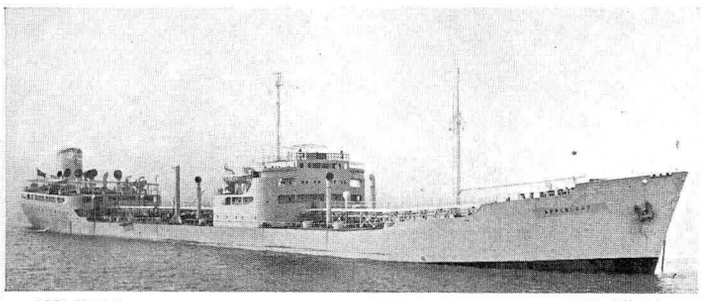
TIDEFLOW (ex-*Tiderace*) **TIDESURGE** (ex-*Tiderange*) **TIDEREACH**

Displacement:	15,000 tons (26,000 tons *full load*)
Measurement:	17,700 tons *deadweight*, 11,200 tons *gross*
Dimensions:	550 (*pp.*), 538 (*o.a.*) × 71 × 32 (*max.*) feet
Machinery:	Double reduction geared turbines. S.H.P.: 15,000=18 kts.

General Notes
Tidereach, launched by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne, on 2 June 1954, and completed on 30 Aug. 1955, was the first of the Admiralty's new class of Fleet Replenishment Tankers. The main machinery was manufactured by the Wallsend Slipway Company. Designed for the support of the Fleet and the replenishment of its supplies under way at sea. Fast, capacious (15,000 tons of fuel cargo) and fitted with the most modern handling gear for transferring food, stores, ammunition, oil and jet aircraft fuels by jackstay and derricks to ships needing them. Oil cargo can be discharged at high rate to ships on either beam or astern, while steaming at high speed. *Tiderange* renamed *Tidesurge* in 1958), was launched at Sir James Laing & Son Ltd., Sunderland, on 1 July 1954. *Tiderace* (renamed *Tideflow* in 1958) was launched at J. L. Thompson & Sons Ltd., Sunderland, on 30 Aug. 1954, the main machinery of both being manufactured by North Eastern Marine Engineering Co. Ltd., Wallsend-on-Tyne. A fourth ship, the *Tide Austral*, was built for Australia, but was returned to Admiralty control.

Photograph Notes
Photograph of *Tidereach* in the 1959-60 and earlier editions.

OILERS



APPLELEAF 1959, *Official*

7 "Leaf" Group

APPLELEAF (ex-M.V. *George Lyras*)

Measurement: 16,850 tons *deadweight*, 11,588 tons *gross*, 6,559 tons *net*
Dimensions: 577$\frac{7}{12}$ (*o.a.*)×68×29$\frac{5}{8}$ mean summer draught
Machinery: Diesel. Speed=14 kts.

Notes
The M.V. *George Lyras*, built by Bartram & Co. Ltd. and formerly owned by Marine Enterprises Ltd., was taken over by the Admiralty on 17 Apr. 1959 on a long term bareboat charter for service as a Royal Fleet Auxiliary and renamed R.F.A. *Appleleaf*, thus reviving the name of an R.F.A. oiler which served the Royal Navy in both World Wars and was scrapped at the end of the Second World War after 30 years of service.
The *Appleleaf* is the first of a number of 16,000-18,000 ton tankers being chartered by the Admiralty to replace the smaller "Dale" and "Wave" classes of R.F.A. freighting tankers.

BAYLEAF (ex-M.V. *London Integrity*)
BRAMBLE LEAF (ex-M.V. *London Loyalty*)

Measurement: 17,960 tons *deadweight*, 12,123 tons *gross*, 7,042 tons *net*
Dimensions: 556$\frac{3}{4}$ (*o.a.*)×71$\frac{1}{3}$×30 feet
Machinery: Diesel. Speed=14$\frac{1}{2}$ kts. (*Bayleaf*), 14 kts. (*Brambleaf*)

Notes
Both built by Farmers S.B. Co. Ltd. Both from London & Overseas Freighters Ltd. 22 May, 1959.

CHERRYLEAF (ex-M.V. *Laurelwood*)

Measurement: 18,560 tons *deadweight*, 12,402 tons *gross*, 7,338 tons *net*
Dimensions: 544 (*o.a.*)×72$\frac{3}{4}$×30$\frac{3}{8}$ mean summer draught
Machinery: Diesel. Speed=13$\frac{1}{4}$ kts.

Notes
Built by Sir J. Laing & Co. Ltd. From Molasses & General Transport Co. Ltd. 15 May, 1959.

ORANGELEAF (ex-M.V. *Southern Satellite*)

Measurement: 17,475 tons *deadweight*, 12,481 tons *gross*, 6,949 tons *net*
Dimensions: 556$\frac{3}{12}$ (*o.a.*)×71$\frac{7}{12}$×30$\frac{1}{2}$ mean summer draught
Machinery: Diesel. Speed=15 kts.

Notes
Built by Furness S.B. Co. Ltd. From South Georgia Co. Ltd. 25 May 1959.

PEARLEAF (launched on 15 Oct. 1959)
Displacement: 23,900 tons
Measurement: 18,045 tons *deadweight*, 12,139 tons *gross*, 7,216 tons *net*
Dimensions: 535 (*pp.*), 568 (*o.a.*)×71$\frac{3}{4}$×30 feet
Machinery: Rowan Doxford 6 cyl. diesels. B.H.P.: 8,800=15$\frac{3}{4}$ kts.

Notes
Built by Scotstoun Yard of Blythswood Shipbuilding Co. Ltd. for Jacobs and Partners Ltd., London. Chartered by the Admiralty on completion and operated as a Royal Fleet Auxiliary. Can carry three different grades of cargo.

PLUMLEAF

Displacement: 24,920 tons
Measurement: 18,900 tons *deadweight*, 12,500 tons *gross* (approx) *net*
Dimensions: 560 (*o.a.*)×71$\frac{5}{8}$×30 feet
Machinery: North East Doxford 6 cyl. diesels. B.H.P.: 9,350=15$\frac{1}{4}$ kts.

Notes
Built by Blyth D. D. & Engineering Co. Ltd.
Photograph Notes
Photograph of *Bayleaf* in the 1959-60 edition (in the Addenda). Larger aerial view of *Appleleaf* (as *George Lyras*) in the 1959-60 edition.



SURF PIONEER *Skyfotos*

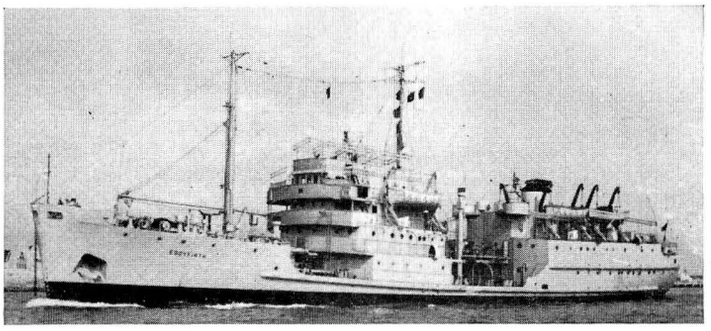
2 "Surf" Class

SURF PATROL (ex-*Tatry*, 7 Feb. 1951) **SURF PIONEER** (ex-*Beskidy*, 23 Apr. 1951)

Measurement: 7,600 tons *gross*, 11,000 tons *deadweight*
Dimensions: 445 (*pp.*)×60$\frac{1}{2}$×27$\frac{1}{2}$ (*max.*) feet
Machinery: Doxford 4-cyl. Diesels. B.H.P.: 4,250=13.75 kts.

Notes
Taken over by Great Britain whilst still under construction by Bartram's, Sunderland, for Poland, at the time of the Korean War emergency. Launch dates above. Classed as Royal Fleet Auxiliaries.

Oilers—*continued*



EDDYFIRTH *Added* 1960, *J. W. Kennedy*

8 "Eddy" Class

EDDYBAY (29 Nov. 1951)
EDDYBEACH (25 Apr. 1951)
EDDYCLIFF (25 Aug. 1952)
EDDYCREEK (19 Jan. 1953)
EDDYFIRTH (10 Sep. 1953)
EDDYNESS (22 Oct. 1953)
EDDYREEF (28 May 1953)
EDDYROCK (16 Dec. 1952)

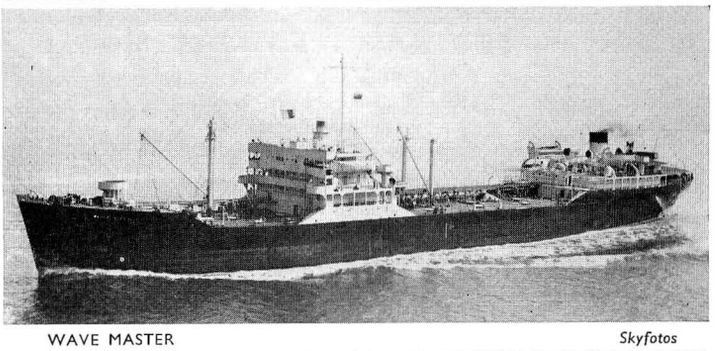
Measurement: 2,157 to 2,300 tons *gross*, 2,095 tons *deadweight*
Dimensions: 270 (*pp.*), 286 (*o.a.*)×44×17$\frac{1}{2}$ feet
Machinery: 1 set triple expansion. 227 r.p.m. 1 shaft. I.H.P.: 1,750=12 kts.
Boilers: 2 oil burning cylindrical

General Notes
Fleet Attendant Oil Tankers. Launch dates above. Officially rates as Royal Fleet Auxiliaries. Single screw vessels built for the Naval Stores Department of the Admiralty. Constructed on the combined transverse and longitudinal system of framing and classed 100 Al at Lloyd's to their latest requirements for the carriage of petroleum in bulk.

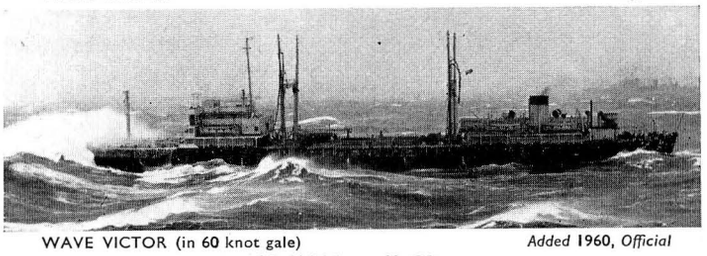
Engineering Notes
The main propelling machinery was built by Lobnitz & Co. Ltd., Renfrew for all ships of the class, boilers by Caledon Shipbuilding & Engineering Co. Ltd., Dundee.

Photograph Notes
Photograph of *Eddycliff* in the 1959-60 edition. Photograph of *Eddybeach* in the 1958-59 and earlier editions.

Name	*Builders*	*Completed*
Eddybay	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	29 Nov. 1952
Eddybeach	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	25 Apr. 1952
Eddycliff	Blythswood Shipbuilding & Engineering Co. Ltd., Scotstoun	10 Feb. 1953
Eddycreek	Lobnitz & Co. Ltd., Renfrew	11 Sep. 1953
Eddyfirth	Lobnitz & Co. Ltd., Renfrew	10 Feb. 1954
Eddyness	Blyth Dry Docks & Shipbuilding Co. Ltd., Blyth	22 Oct. 1954
Eddyreef	Caledon Shipbuilding & Engineering Co. Ltd., Dundee	23 Oct. 1953
Eddyrock	Blyth Dry Docks & Shipbuilding Co. Ltd., Blyth	7 June 1953



WAVE MASTER *Skyfotos*



WAVE VICTOR (in 60 knot gale) *Added* 1960, *Official*

12 "Wave" Class

5 *Furness SB. Co., Ltd., Haverton Hill-on-Tees*	*Launched*
WAVE BARON (ex-*Empire Flodden*)	19 Feb. 1946
WAVE REGENT	29 Mar. 1945
WAVE RULER (ex-*Empire Evesham*)	17 Jan. 1946
WAVE SOVEREIGN	20 Nov. 1945
WAVE VICTOR (ex-*Empire Bounty*)	30 Sep. 1943
2 *Harland & Wolff, Ltd. (Govan), Glasgow*	
WAVE CHIEF (ex-*Empire Edgehill*)	4 Apr. 1946
WAVE MONARCH	6 July 1944
5 *Sir James Laing & Sons Ltd., Sunderland*	
WAVE DUKE (ex-*Empire Mars*)	16 Nov. 1944
WAVE KNIGHT (ex-*Empire Naseby*)	22 Oct. 1945
WAVE LAIRD (ex-*Empire Dunbar*)	3 Apr. 1946
WAVE MASTER (ex-*Empire Salisbury*)	20 May 1944
WAVE PRINCE (ex-*Empire Herals*)	27 July 1945

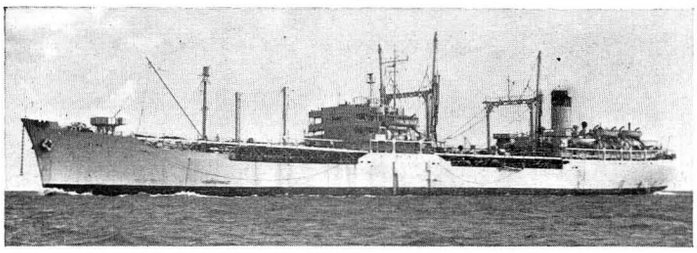
Displacement: 8,200 tons *standard* (16,476 to 16,485 tons *full load*)
Measurement: 11,900 tons *deadweight*
Dimensions: 465$\frac{1}{4}$ (*pp.*), 492$\frac{1}{2}$ (*o.a.*)×64$\frac{1}{2}$×28$\frac{1}{2}$ feet
Guns: Light AA. in wartime
Machinery: Double reduction geared turbines. S.H.P.: 6,800=15 kts.
Boilers: 3-drum type

General Notes
Classed as Royal Fleet Auxiliaries. Launch dates above. The turbines are of Metrovick type in *Wave Baron*, *Wave Chief*, *Wave Duke* and *Wave Laird*, and Parsons type in the others.

Photograph Notes
Photograph of *Wave Premier* in the 1959-60 edition. Photograph of *Wave Master* in the 1959-60 and earlier editions. Photograph of *Wave Monarch* in the 1952-53 edition

Recent Disposals
Wave Commander and *Wave Liberator* were scrapped in 1959. *Wave Conqueror* and *Wave King* were sold in 1960 when *Wave Emperor*, *Wave Governor* and *Wave Premier* were also stricken from the list. *Wave Protector* was hulked at Malta.

Oilers—*continued*



OLNA 1960 *Wright & Logan*

1 Large Type

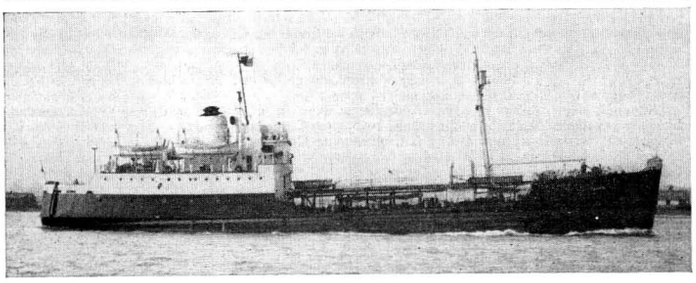
OLNA

Displacement:	17,000 tons *standard* (25,096 tons *full load*)
Measurement:	17,500 tons *deadweight*
Dimensions:	550 (*pp.*), 583½ (*o.a.*) × 70½ × 32¾ feet
Guns:	1—4 inch AA., 4—40 mm. AA., 8—20 mm. AA. (in war time)
Armour:	1½ in deck
Machinery:	Turbo-electric. S.H.P.: 13,000 = 17 kts.
Boilers:	3 Babcock & Wilcox
Oil Fuel:	2,130 tons
Complement:	77

General Notes
Built by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne. Launched on 28 Dec. 1944. Classed as a Royal Fleet Auxiliary. Guns are not mounted in peace time.

The ship has had her funnel considerably heightened with a smoke deflecting top.

Photograph Notes
A larger, port bow oblique aerial, view of *Olna* appears in the 1953-54 to 1959-60 editions.



TEAKOL *Added* 1960, *courtesy Dr. Ian Pearsall*

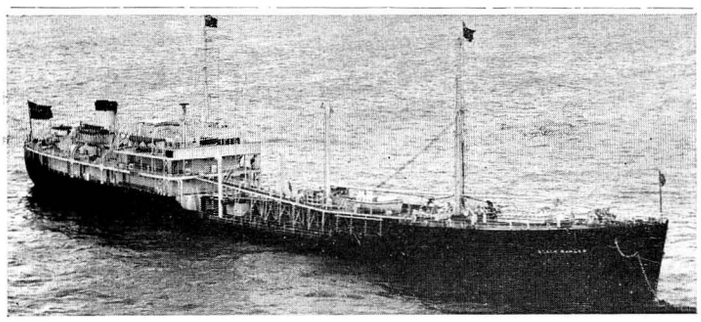
4 Later "Ol" Class

BIRCHOL (19 Feb. 1946)
OAKOL (28 Aug. 1946)
ROWANOL (ex-*Cedarol*, ex-*Ebonol*, 15 May 1946)
TEAKOL (14 Nov. 1946)

Displacement:	2,670 tons
Measurement:	1,050 tons *deadweight*
Dimensions:	218 (*pp.*), 232 (*o.a.*) × 39 × 15¾ feet
Machinery:	Triple expansion. I.H.P.: 1,140 = 11 kts.
Complement:	26

General Notes
All built by Lobnitz and Co. Ltd., Renfrew. Launch dates above. Classed as Royal Fleet Auxiliaries.

Photograph Notes
Photograph of *Oakol* in the 1959-60 edition. Photograph of *Rowanol* in the 1958-59 and earlier editions.



BLACK RANGER *Added* 1960, *Skyfotos*

5 "Ranger" Class

Caledon Shipbuilding & Engineering Co. Ltd., Dundee

GOLD RANGER 12 Mar. 1941
GREEN RANGER 21 Aug. 1941

3 Harland & Wolff Ltd. (Govan), Glasgow

BLACK RANGER 22 Aug. 1940
BLUE RANGER 29 Jan. 1941
BROWN RANGER 12 Dec. 1940

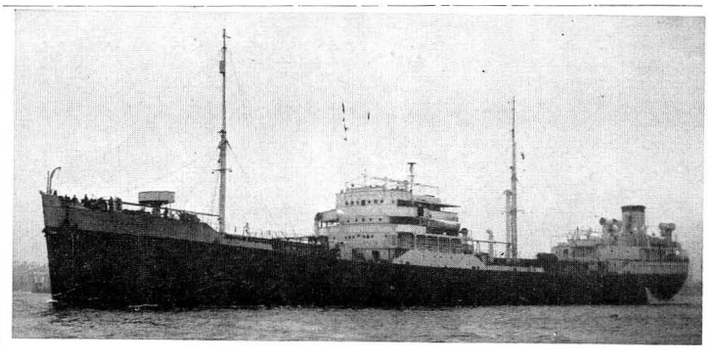
Measurement:	3,313 to 3,417 tons *gross*
Dimensions:	First two, 339¼ (*pp.*), 355¼ (*o.a.*) × 47 × 20 feet; Other three, 349½ (*pp.*), 365¾ (*o.a.*) × 47 × 20 feet
Machinery:	Diesel. B.H.P.: 2,750 = 12 kts.

General Notes
Classed as Fleet Auxiliaries. Launch dates above. Funnel in these ships is on the port side. All are fitted with special derrick on the beam to facilitate fuelling at sea. Sister ship *Gray Ranger* (Caledon) was lost during the Second World War.

Green Ranger is laid up and may be disposed of in the near future.

Photograph Notes
Photograph of *Brown Ranger* in the 1959-60 edition.

Oilers—*continued*



ECHODALE *Added* 1960, *Wright & Logan*

1 Later "Dale" Class

ECHODALE

Displacement:	17,000 tons (approx.)
Measurement:	12,000 tons *deadweight* (approx.), 8,500 tons *gross* (approx.)
Dimensions:	460 (*pp.*), 483 (*o.a.*) × 59 × 27½ (*mean*) feet
Guns:	1—40 mm. AA., 4—20 mm. AA. (removed in peacetime)
Machinery:	Hawthorn Leslie Werkspoor diesels. B.H.P.: 3,500 = 11.5 kts.
Complement:	40

General Notes
Built by Hawthorn Leslie & Co. Ltd., Hebburn. Launched in 1941. Classed as a Royal Fleet Auxiliary. Second World War losses: *Cairndale*, *Darkdale*, *Dinsdale*, (ex-*Empire Norseman*). *Denbydale* (ex-*Empire Silver*) was so badly damaged at the end of the war that she ceased to be sea-going, and she was towed to the United Kingdom from Gibraltar in 1955 to be broken up.

Photograph Notes
Photograph of *Ennerdale* in the 1959-60 and earlier editions.

Recent Disposals
In 1959 *Ennerdale* was scrapped, *Easedale* was sold, and *Eaglesdale* was for disposal. All these three had steam reciprocating engines.

Cedardale, *Derwentdale*, *Dewdale* and *Dingledale* were disposed of in 1960.

1 Early "Dale" Class

ABBEYDALE

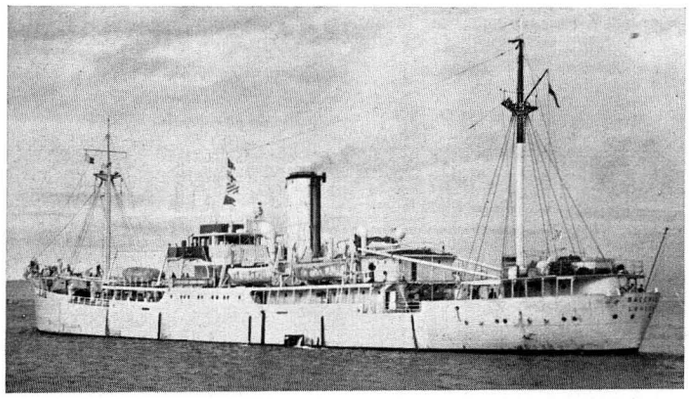
Displacement:	17,210 tons
Measurement:	11,650 tons *deadweight*, 8,503 tons *gross*
Dimensions:	464¼ (*pp.*), 481½ (*o.a.*) × 62 × 27½ (*mean*) feet
Machinery:	Doxford Diesel. B.H.P.: 4,000 = 11.5 kts.
Own Oil:	850 tons
Complement:	40

General Notes
Built by Swan Hunter & Wigham Richardson, Ltd. Launched on 28 Dec. 1936. Classed as Royal Fleet Auxiliary. Second World War losses: *Aldersdale*, *Boardale*.

Photograph Notes
Photograph of *Bishopdale* in the 1959-60 and earlier editions.

Recent Disposals
Sister ships *Arndale*, *Bishopdale* and *Broomdale*, of the early "Dale" class were disposed of in 1960. The five old oilers of the "Ol" class, *Belgol*, *Celerol*, *Fortol*, *Prestol*, and *Serbol*, were all disposed of in 1958. The six old oilers of the smaller "Ol" class, *Bozol*, *Elderol*, *Elmol*, *Larchol*, *Limol* and *Philol*, were all stricken from the Fleet Auxiliary List in 1959, and have been sold or will be disposed of in the near future. *War Hindoo*, used only as a hulk, has been scrapped.

STORE CARRIER AND DISTILLING VESSEL



BACCHUS *Added* 1959, *R. M. Scott*

1 "Bacchus" Class

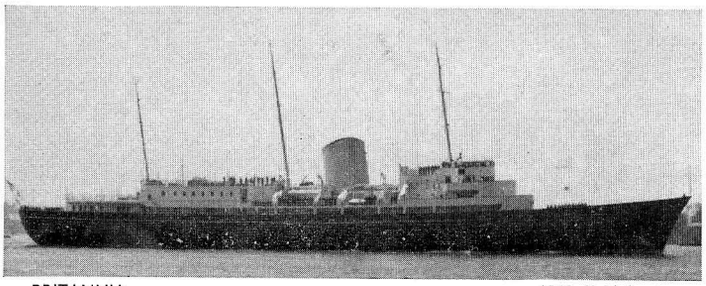
BACCHUS

Displacement:	5,150 tons *standard* (5,790 tons *full load*)
Measurement:	Deadweight capacity 3,300 tons
Dimensions:	320 (*pp.*), 337⅝ (*o.a.*) × 49 × 18 (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 2,000 = 12 kts.
Boilers:	3 cylindrical
Oil fuel:	643 tons
Complement:	44

General Notes
Built by Caledon Shipbuilding & Engineering Co. Ltd., Dundee. Launched on 15 July 1936. Classed as a Royal Fleet Auxiliary. Equipped with distilling plant for supplying naval vessels with fresh water. Pennant No. A 103.

Photograph Notes
A larger, starboard bow, view of *Bacchus* appears in the 1954-55 to 1958-59 editions.

ROYAL YACHT



BRITANNIA 1960, *Keith Long*

BRITANNIA

Displacement:	3,990 tons *light* (4,961 tops *full load*)
Measurement:	5,769 tons *gross*
Dimensions:	Length: 360 feet (*pp.*), 380 feet (*w.l.*), 412½ feet (*o.a.*). Beam: 55 feet. Draught: 15⅝ (*mean* at load), 17 (*max.*) feet
Machinery:	Single reduction geared steam turbines. 2 shafts. S.H.P.: 12,000=21 kts. (*approx.*) continuous cruising speed. 22.75 kts. *max.*. (trials)
Boilers:	2
Radius:	2,100 miles at 20 kts., 2,400 miles at the economical speed of 18 kts., 3,000 miles at 15 kts.
Oil fuel:	330 tons (can be increased to 490 tons with auxiliary fuel tanks)
Complement:	271

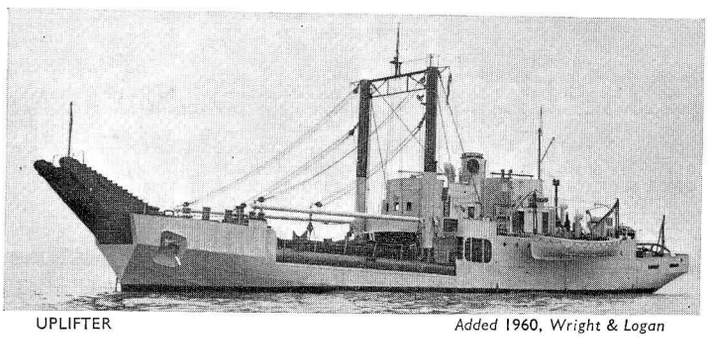
General Notes

This vessel was designed as a medium sized naval hospital ship to be used by Her Majesty The Queen in time of peace as a Royal Yacht. Pennant No. A 00. Built by John Brown & Co. Ltd., Clydebank. Ordered in Feb. 1952. Laid down on 16 June 1952. Launched on 16 Apr. 1953. Completed on 14 Jan. 1954. She has endurance sufficient to enable her to undertake long ocean voyages, modified cruiser stern, and raked bow. Her construction conforms to mercantile practice. The complete bridge structure is constructed of aluminium, and the funnel is also of aluminium. The ship is fitted with Denny-Brown single fin stabilisers to reduce roll in bad weather from 20 deg. to 6 deg. Cost £2,098,000. To enable her to pass under the bridges of the St. Lawrence Seaway when she visited Canada, the top 20 feet of her mainmast and the wireless aerial on her foremast were hinged in Nov. 1958 so that they can be lowered as required. Her two 3-pdr. saluting guns were removed.

Photograph Notes

Larger aerial photographs in the Addenda of the 1958-59 edition and in the 1959-60 edition.

COASTAL SALVAGE VESSELS



UPLIFTER *Added* 1960, *Wright & Logan*

7 "Kin" Class

DISPENSER **KINLOSS** **SWIN**
KINBRACE **SUCCOUR** **UPLIFTER**
KINGARTH

Displacement:	950 tons *standard* (1,050 tons *full load*)
Measurement:	775 tons gross, 261·6 tons register
Dimensions:	150 (*pp.*), 179½ (*o.a.*)×39½×9½ (*mean*), 11 (*max.*) feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 600=9 kts.
Boilers:	1 return tube cylindrical (30 ton)
Complement:	34

General Notes

Coastal salvage vessels. Equipped with horns and heavy rollers. Can lift 200 tons dead-weight over the bow. *Uplifter*, built by Smith's Dock Co. Ltd., is the only salvage vessel wearing the White Ensign. She was laid down on 13 Feb. 1943, launched on 29 Nov. 1943, and completed on 6 Apr. 1944. *Dispenser*, *Help* and *Lifeline* were on charter to private firms. Remaining ships are Royal Fleet Auxiliaries wearing the Blue Ensign. *Kingarth* wore the White Ensign in 1957.

Photograph Notes

Photograph of *Kingarth* in the 1959-60 and earlier editions. Photograph of *Swin* in the 1956-57 and earlier editions.

Recent Disposals

Help was disposed of and *Lifeline* was also on the disposal list in 1960.

MFVs

149 Motor Fishing Vessels ranging from Nos. 2 to 1574 are employed for various subsidiary duties in the Fleet and in the dockyards. They are of four types, viz:

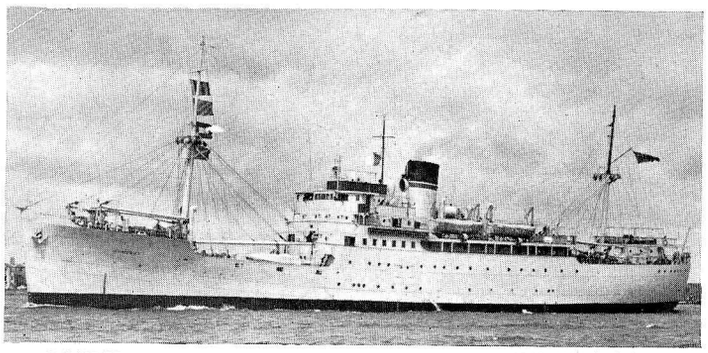
MFV 2 to 436	Length: 61½ feet	69 in service
MFV 609 to 944	Length: 45 feet	33 in service
MFV 1004 to 1257	Length: 75 feet	39 in service
MFV 1526 to 1574	Length: 90 feet	8 in service

Notes

MFV 1044, 1069, 1156 are armed with 1—40 mm. Bofors forward (in place of mast) and 1—20 mm. Oerlikon an after superstructure. *MFV* 206 is at Kilindini (Royal East African Navy). *MFV* 1151, *Squirrel*, and *MFV* 1080, *Watchful*, were replaced as Fishery Protection Gunboats by an inshore minesweeper and a motor launch (replaced by an inshore minesweeper) with those names, see earlier pages.

MFV 270, 2014 and 1564 were discarded in 1957. *MFV* 1161 was removed from the Navy List in 1959, and 56 others were stricken in 1960.

NAVAL ARMAMENT CARRIERS



AMHERST 1960, *Wright & Logan*

AMHERST

Displacement:	5,337 tons
Measurement:	1,600 tons *deadweight*
Dimensions:	341¾×45×20 feet
Machinery:	Reciprocating. 1 shaft

Notes

Built by Blythswood Shipbuilding & Engineering Co., Ltd., Scotstoun. Pennant No. A 238.

ENFIELD **MAXIM** **SNIDER**
GATLING **NORDENFELT** **CHATTENDEN**

Displacement:	604 to 663 tons
Measurement:	240 tons
Dimensions:	131½ to 144½×25×18 feet
Machinery:	Reciprocating (except *Chattenden*, diesel)
Complement:	13

Notes

All built by Lobnitz & Co. Ltd., Renfrew, except *Chattenden* completed by Richards Iron Works, Lowestoft, 1944 (engined by Crossley).

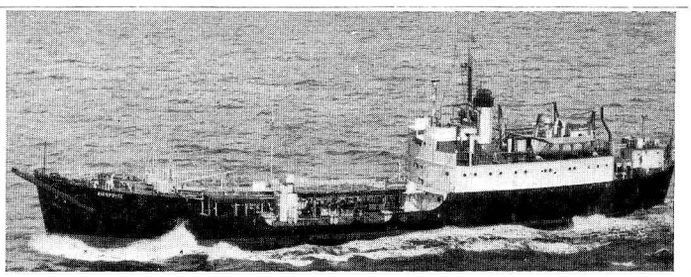
KINTERBURY **THROSK**

Displacement:	1,770 tons
Measurement:	600 tons *deadweight*
Dimensions:	199⅝×34½×13 feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 900
Coal:	154 tons

Notes

Launched in 1943 and 1944, respectively. Both built by Philip & Son Ltd. Both of these vessels were converted in 1959 with hold stowage and a derrick for handling guided missiles for attending and servicing the guided weapons trails ship *Girdle Ness*. Photograph of *Throsk* in 1957-58 and earlier editions.

PETROL CARRIERS



AIRSPRITE 1954, *Skyfotos*

AIRSPRITE (22 Dec. 1942) **NASPRITE** (28 Nov. 1940)

Measurement:	965 tons *gross*
Dimensions:	204½×33½×12¾ feet
Machinery:	Triple expansion. I.H.P.: 900=11 kts.

General Notes

Both built by Blythswood S.B. Co. Launch dates above. *Airsprite* is officially rated as a Spirit Carrier.

Recent Disposals

The petrol carriers *Petrobus* and *Rippledyke* were sold in 1959-60.

TENDERS

ICEWHALE

Displacement:	350 tons
Dimensions:	120×24×9 feet
Machinery:	Speed=9 kts.
Complement:	12 (Master, Mate and 10 ratings)

Notes

Trials vessel. Tender to the Underwater Detection Establishment at Portland.

DEEPWATER (ex-*Walter Holtzapfel*)

Displacement:	1,200 tons
Dimensions:	246 (*pp.*), 260 (*o.a.*)×38×11½ (*mean*) feet
Machinery:	2 Sets Sulzer Diesels. B.H.P.: 1,750=17 kts.
Complement:	61

Notes

Ex-German deep diving ship. Launched in 1940. Relegated to stationary harbour service at Portsmouth. Tender to *Vernon* for diving instruction. Now painted with black hull, red waterline and light grey upperworks but black funnel top.

DWARF

Displacement:	172 tons
Dimensions:	83½ (*pp.*), 91 (*o.a.*)×19×6½ (*mean*), 7 (*max.*) feet
Machinery:	2 sets triple expansion. I.H.P.: 350=9·25 kts.
Boiler:	1 cylindrical
Coal:	16 tons

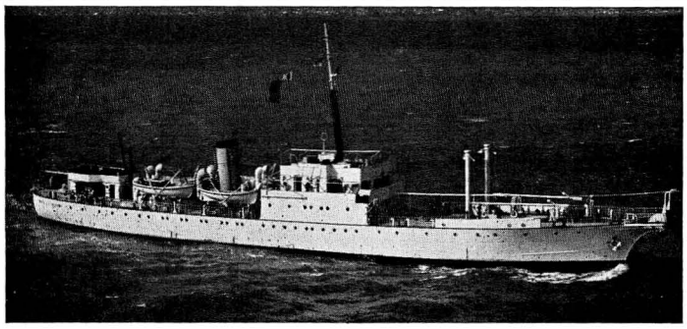
Notes

Built by Philip & Son, Ltd., Dartmouth. Launched in 1936. Tender to Third Submarine Flotilla at Faslane. Employed as a Torpedo Recovery Vessel.

Recent Disposals

The mining tenders *Nightingale* and *Vesuvious* were discarded in 1956. The Torpedo Recovery Vessel *Redwing* was discarded in 1957. The experimental trials vessel *Decibel* was discarded in 1957. The deep diving tender *Clearwater*, and the mine location tenders *Dipper* and *Diver*, were discarded in 1959.

CABLE VESSELS



BULLFINCH *Added 1959, Skyfotos*

2 "Bull" Class

BULLFINCH (19 Aug. 1940) **ST. MARGARETS** (Oct. 1943)

Measurement:	1,524 tons *gross*
Dimensions:	252 (*o.a.*) × 36½ × 16½ (*mean*) feet
Guns:	1—4 inch, 4—20 mm. AA.
Machinery:	2 Reciprocating. Speed = 12 kts.

General Notes
Admiralty cable ships classed as Royal Fleet Auxiliaries. Both built by Swan, Hunter & Wigham Richardson Ltd. Launch dates above.

Class Notes
Bullfrog and *Bullhead* of this type were transferred to Cable and Wireless service in 1947.

Photograph Notes
A larger, port broadside, view of *Bullffinch*, appears in the 1951-52 to 1957-58 editions.

Recent Disposal
The smaller cable vessel *Lasso* was disposed of at the end of 1959.

WATER CARRIERS

6 "Spa" Class

2 *Charles Hill & Sons Ltd.* 4 *Philip & Son*

SPALAKE (10 Aug. 1946) **SPA** (11 Oct. 1941) **SPABROOK** (24 Aug. 1944)
SPAPOOL (28 Feb. 1946) **SPABECK** (21 June 1943) **SPABURN** (5 Jan. 1946)

Displacement:	1,219 tons
Measurement:	500 tons *deadweight*
Dimensions:	160 (*pp.*), 163 (*o.a.*) × 30 × 13 feet
Machinery:	Triple expansion. I.H.P.: 675
Boiler:	1
Coal:	90 tons

General Notes
Spabeck is now a spirit carrier (hydrogen peroxide fuel for "Ex" class submarines).

Photograph Notes
Photograph of *Spalake* in 1957-58 and earlier editions.

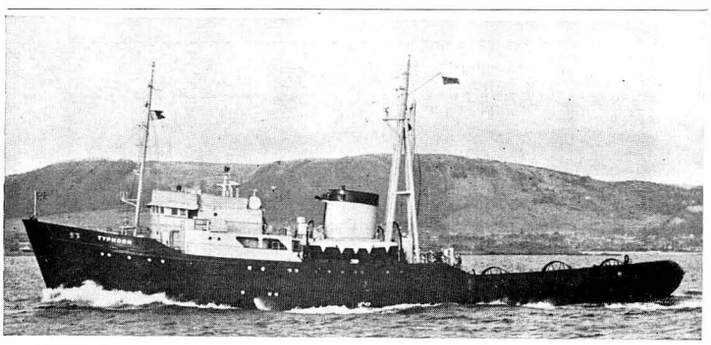
14 "Fresh" Class

FRESHBROOK **FRESHFORD** **FRESHPOND** **FRESHSPRING**
FRESHBURN **FRESHLAKE** **FRESHPOOL** **FRESHTARN**
FRESHENER **FRESHMERE** **FRESHSPRAY** **FRESHWATER**
FRESHET **FRESHWELL**

Displacement:	594 tons
Dimensions:	126½ × 25½ × 10¾ (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 450 = 9 kts.

Photograph Notes
Photograph of *Freshpond* in the 1953-54 and earlier editions.

FLEET TUGS



TYPHOON 1960, *Official*

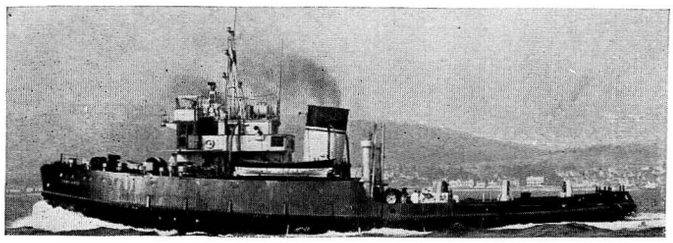
1 "Typhoon" Class

TYPHOON

Displacement:	800 tons (approx.) *standard* (1,380 tons *full load*)
Dimension:	199 (*o.a.*), 180 (*pp.*) × 38½ × 13 feet
Machinery:	2 diesels. 1 shaft. Controllable pitch propeller. Speed: over 16 knots

Notes
The first of a new class of ocean tugs to be built for the Admiralty. Launched from the shipyard of Henry Robb & Co. Ltd., Leith, on 14 Oct. 1958. The class is an improved version of the "Bustler" tugs. Extensive tank tests were carried out by William Denny & Bros. Ltd., Dumbarton, before the design was developed by Henry Robb & Co. Ltd. The *Typhoon* is propelled by two diesel engines, manufactured by Vickers-Armstrongs Ltd., Barrow-in-Furness, geared to a single shaft with a controllable pitch propeller, which is an innovation for Admiralty ocean tugs. She is fitted with the latest equipment for fire fighting, salvage and ocean rescue, with a heavy mainmast and derrick attached. Completed in 1960.

Fleet Tugs—*continued*



CONFIANCE 1956

2 "Con" Class

CONFIANCE (15 Nov. 1955) **CONFIDENT** (17 Jan. 1956)

Displacement:	760 tons (*loaded*)
Dimensions:	140 (*pp.*), 154¾ (*o.a.*) × 35 × 11 feet
Machinery:	4 Paxman diesels. 2 shafts. B.H.P.: 1,600 = 13 kts.
Complement:	29 + 13 salvage party

Notes
Built by A. & J. Inglis, Ltd., Glasgow. Launch dates above. *Confiance* completed 27 Mar. 1956. Fitted with 2,500 mm. diameter Stone Kamewa variable pitch propellers.

3 "Samson" Class

SAMSON (14 May 1953) **SEA GIANT** (2 June 1954) **SUPERMAN** (23 Nov. 1953)

Measurement:	850 tons *gross*
Dimensions:	180 × 37 feet
Machinery:	Triple expansion. 2 shafts

Notes
All built and engined by Alexander Hall & Co., Ltd., Aberdeen. Launch dates above. Photograph of *Samson* in 1957-58 and earlier editions.

4 "Nimble" Class

CAPABLE (Hall, Russell, 22 Nov. 1945) **EXPERT** (Fleming & Ferguson, 1944)
CAREFUL (A. Hall & Co. 23 Oct. 1945) **NIMBLE** (Fleming & Ferguson, 4 Dec. 1941)

Displacement:	890 tons (1,190 tons *full load*)
Dimensions:	165 (*pp.*), 175 (*o.a*) × 35¾ × 13¾ feet
Machinery:	Triple expansion. 2 shafts· I.H.P.: 3,500 = 16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	300 tons

Notes
Capable was fitted experimentally with reversible pitch propellers.

4 "Envoy" Class

ENCORE (Dec. 1944) **ENIGMA** (June 1944)
ENFORCER (July 1944) **ENVOY** (Feb. 1944)

Displacement:	868 tons (1,332 tons *full load*)
Measurement:	762 tons gross
Dimensions:	174½ × 36 × 17 (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 1,700 = 13 kts.
Boilers:	2 cylindrical
Oil fuel:	398 tons
Complement:	33

Notes
All built by Cochrane & Sons, Ltd., Selby. Launch dates above. In wartime these ships carried 1—3 inch AA. gun, 2—20 mm. AA guns, and 2 M.G. *Enticer* was lost 21 Dec. 1946.

7 "Bustler" Class

BUSTLER (4 Dec. 1941) **SAMSONIA** (1 Apr. 1942)
GROWLER (10 Sep. 1942) **TURMOIL** (14 July 1944)
MEDIATOR (21 June 1944) **WARDEN** (28 June 1945)
REWARD (13 Oct. 1944)

Displacement:	1,118 tons (1,630 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 41 × 13 (*mean*), 16 (*max.*) feet
Machinery:	2 Atlas Polar 8-cyl. Diesels. 1 shaft. B.H.P.: 4,000 = 16
Oil fuel:	405 tons
Range:	17,000 miles
Complement:	42

Notes
All built by Henry Robb, Ltd., Leith. Launch dates above. *Growler*, temporarily renamed *Caroline Moller*, while on long term charter, then renamed *Castle Peak*, was returned to R.F.A. service in 1957. Most of this class, including *Turmoil*, have been chartered by commercial undertakings. *Bustler* has returned to naval service. Second World War loss: *Hesperia*. Photograph of *Reward* in 1957-58 and earlier editions.

10 "Assurance" Class

ALLEGIANCE (Feb. 1943) **HENGIST** (Dec. 1941)
ALLIGATOR **JAUNTY** (June 1941)
ANTIC (Mar. 1943) **PROSPEROUS** (June 1942)
CAUTIOUS (ex-*Prudent*, Aug. 1940) **RESTIVE** (Sep. 1940)
EARNER (ex-*Ernest*, July 1943) **SAUCY** (Oct. 1942)

Displacement:	700 tons (1,055 tons *full load*)
Measurement:	597 tons *gross*
Dimensions:	157 × 35 × 10 feet
Machinery:	Triple expansion. I.H.P.: 1,350 = 12 kts.
Boiler:	1 cylindrical
Oil fuel:	262 tons
Complement	31

Notes
All built by Cochrane & Sons, Ltd., Selby. Launch dates above. In wartime these ships carried 1—3 inch AA. gun, 1—20 mm. AA. gun and 2 M.G. *Hengist* Pennant No. A 110. Second World War losses of the class were *Adept*, *Adherent* (original), *Assurance*, *Horsa* and *Sesame*. *Alligator* is reported to be up for sale. *Assiduous* was transferred to Ceylon in 1959. *Adherent* (the second) and *Tryphon* were disposed of in 1960.

1 "Brigand" Class

BRIGAND (8 July 1937)

Displacement:	840 tons *standard* (1,190 tons *full load*)
Dimensions:	165 (*pp.*), 174 (*o.a.*) × 32 × 10¾ feet
Guns:	1—3 inch AA., 1—20 mm. AA. 2 Lewis
Machinery:	Triple expansion. 2 shafts. Designed H.P.: 3,000 = 15·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	390 tons
Complement:	43

Notes
Built by Fleming & Ferguson, Paisley, under the 1936 Navy Estimates. Fitted for salvage work, and has towing winches for work with battle practice targets. Sister ship *Buccaneer* was sunk on 25 Aug. 1946. *Briton* (ex-*Bandit*), *Freebooter* and *Marauder* were disposed of in 1960. Photograph of *Brigand* in 1957-58 and earlier editions.

There are a number of other tugs employed on harbour service and in H.M. Dockyards, including the new diesel-electric paddle tugs *Director* and *Dexterous*, *Faithful*, *Favourite* and *Forceful* and *Grinder* and *Griper* and the twinscrew diesel dockyard tugs *Accord*, *Adept*, *Agile* and *Advice*.

Also the small fleet servicing and naval harbour tugs *Empire Demon*, *Empire Fred*, *Empire Imp*, *Empire Netta*, *Empire Rosa*, *Empire Zona*, *Energetic* (ex-*Empire Edward*) and *Frisky* (ex-*Empire Rita*), not all of the same type. *Empire Plane* was sold in 1958.

ROYAL AUSTRALIAN NAVY

Naval Board

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Chairman of the Australian Joint Services Mission in Washington:
Rear-Admiral G. G. O. Gatacre, C.B.E., D.S.O., D.S.C. and Bar.

Navy Estimates

1953-54: £A45,770,000	1956-57: £A39,065,000
1954-55: £A48,165,000	1958-59: £A42,401,000
1955-56: £A48,834,000	1959-60: £A42,612,000

Personnel

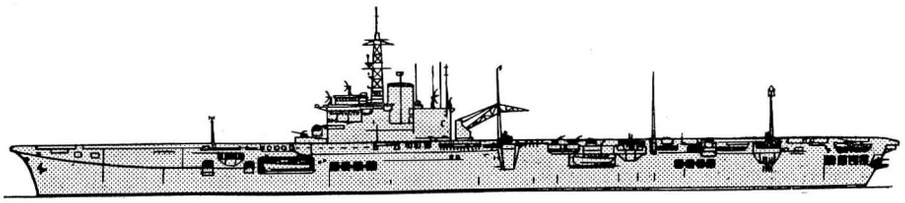
1956: 13,111 officers and ratings.
1957: 12,250 officers and ratings.
1958: 11,000 officers and ratings.
1959: 11,000 officers and ratings.
1 January 1960: 10,621 officers and ratings. (authorised strength, 12,800)

Mercantile Marine

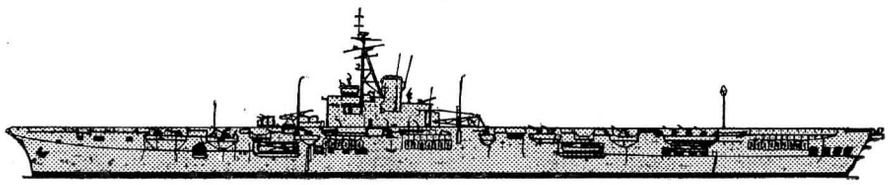
Lloyd's Register of Shipping:
351 vessels of 663,885 tons *gross*.

Silhouettes

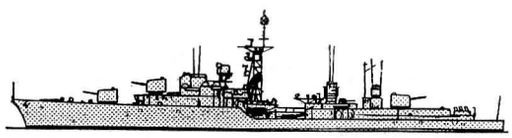
Scale: 150 ft. = 1 inch.



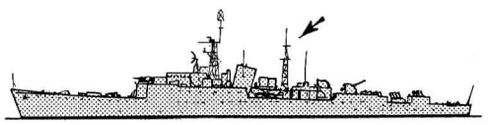
MELBOURNE



SYDNEY



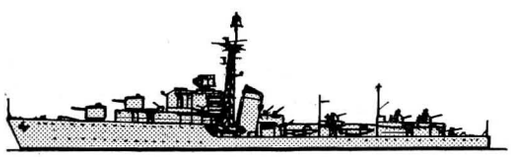
VOYAGER
(Silhouettes of *Vampire* and *Vendetta* differ)



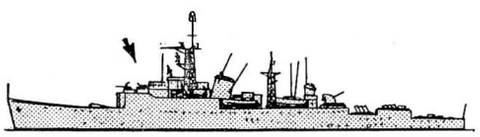
QUIBERON



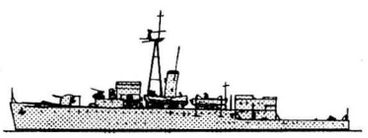
"RIVER" *Class*



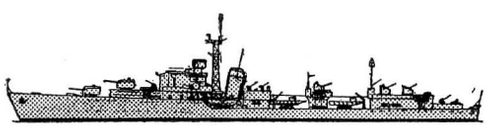
ANZAC



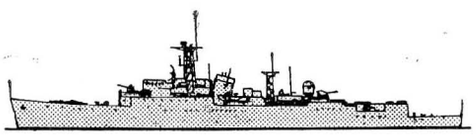
QUEENBOROUGH, QUICKMATCH



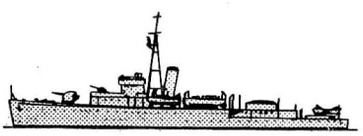
SWAN



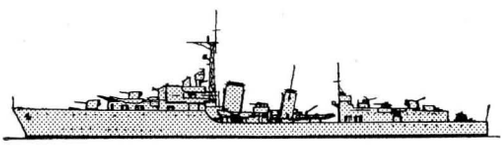
TOBRUK



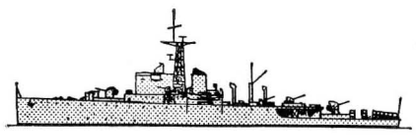
QUADRANT



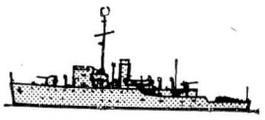
WARREGO



ARUNTA, WARRAMUNGA

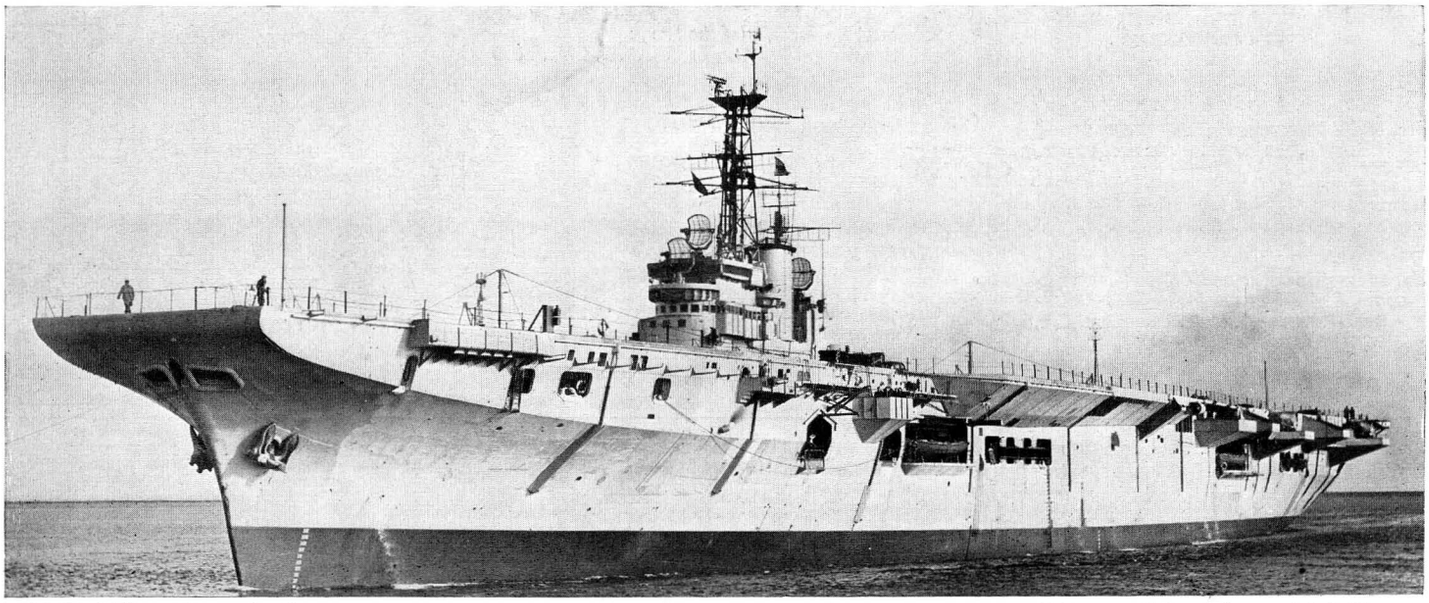


CONDAMINE *Class*



BATHURST *Class*

AIRCRAFT CARRIERS



MELBOURNE (port bow surface view) 1955, *courtesy Vickers-Armstrongs, Ltd., Builders*

1 Modified "Majestic" Class

MELBOURNE (ex-*Majestic*)

Pennant No.:	*R 21*
Deck Letter:	Y
Builders:	Vickers-Armstrongs, Ltd., Barrow-in-Furness.
Laid down:	15 Apr. 1943
Launched:	28 Feb. 1945
Completed:	8 Nov. 1955
Displacement:	16,000 tons *standard* (20,000 tons *full load*)
Dimensions:	Length: 650 (*w.l.*), 701½ (*o.a.*) feet. Beam (hull): 80¼ feet. Width: 80 (flight deck), 128 (*o.a.*) feet (including 6 degree angled deck and mirrors). Draught: 23 feet. Hangar: 444×52×17½ feet
Guns:	25—40 mm. Bofors AA.
Aircraft:	10 Sea Venom jet fighters, 10 Gannet turbo-prop anti-submarine aircraft, 2 Sycamore helicopters
Machinery:	Parsons single reduction geared turbines. 2 shafts. S.H.P.: 42,000= 24 kts. Sea speed 23 kts. (*max.*)
Boilers:	4 Admiralty 3-drum type
Complement:	1,209 to 1,250 (*peace*), 109 officers (120 to 130 with squadrons), 1,100 to 1,120 ratings 1,343 officers and ratings (*war*)

General Notes

At the end of the Second World War, when she was still incomplete, work on this ship was virtually brought to a standstill pending a decision as to future naval requirements. When full-scale work was resumed during 1949-55, and after her design had several times been re-cast, she underwent reconstruction and modernisation in Great Britain, including the fitting of the angled deck, the steam catapult and the mirror deck landing sights, and was transferred to R.A.N. on completion. She was commissioned and renamed at Barrow-in-Furness on 28 Oct. 1955, sailed from Portsmouth on 5 Mar. 1956 and arrived at Freemantle, Australia, on 23 April 1956. She became flagship of the Royal Australian Navy at Sydney on 14 May 1956. She cost £A8,309,000.

Engineering Notes

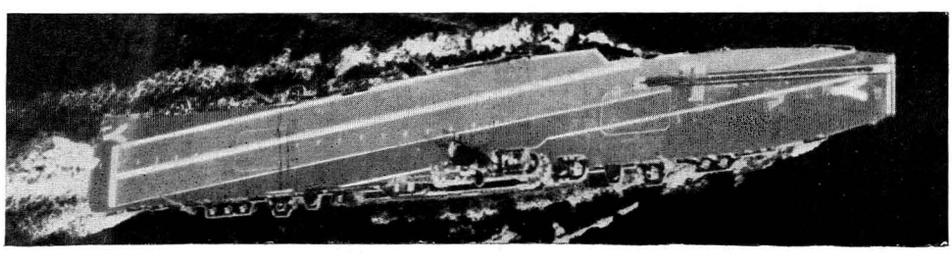
Boilers work at a pressure of 400 lb. per sq. inch and a temperature of 700 degrees Fahrenheit of superheat.

Notes to Drawing

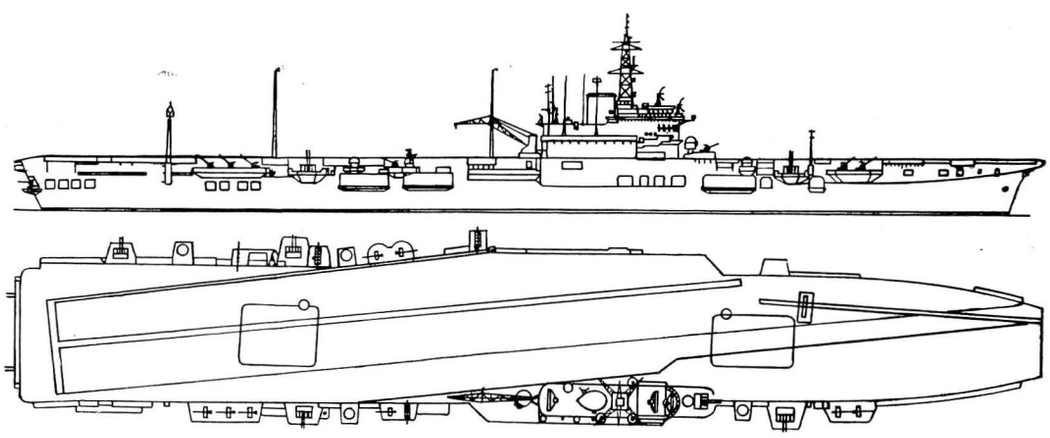
Port elevation and plan as converted with the angled deck. Scale: 128 ft.=1 inch



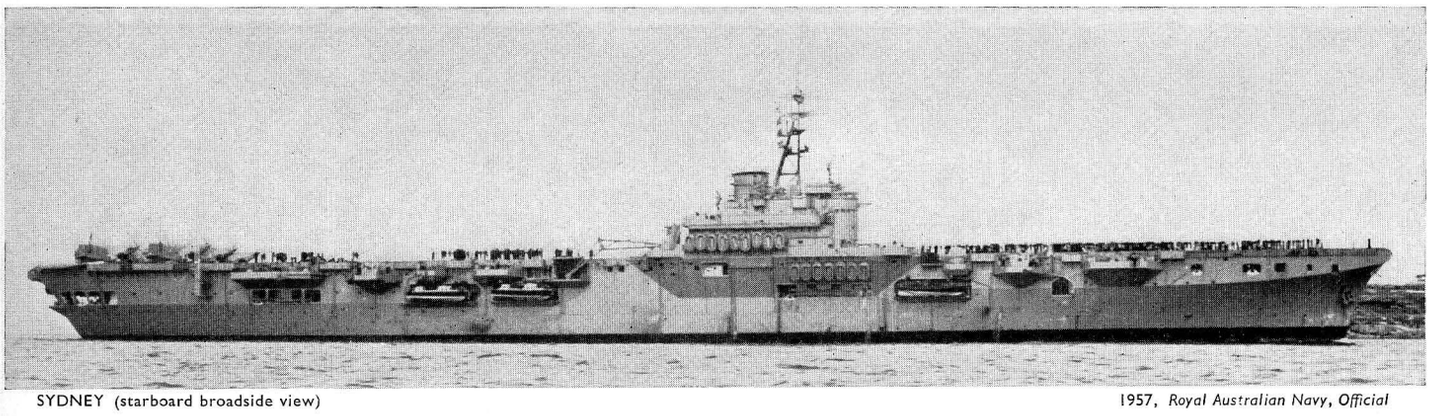
MELBOURNE (port bow oblique aerial view) 1957, *Royal Australian Navy Official*



MELBOURNE (overhead aerial plan view showing angled deck) 1956, *R.A.N., Official*



Aircraft Carriers—*continued*



SYDNEY (starboard broadside view) 1957, *Royal Australian Navy, Official*

1 "Majestic" Class

SYDNEY (ex-*Terrible*)

Pennant No.:	*R 17*
Deck Letter:	K
Builders:	H.M. Dockyard, Devonport
Engineers:	Parsons
Laid down:	19 Apr. 1943
Launched:	30 Sep. 1944
Completed:	5 Feb. 1949

Displacement:	15,700 tons *standard* (19,550 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 690¾ (flight deck), 695 (*o.a.*) feet. Beam: 80 feet. Width: 112½ feet (*o.a.*). Draught: 25 feet
Guns:	30—40 mm. AA. (Bofors)
Aircraft:	Seafury fighters, Firefly anti-submarine and reconnaissance squadrons. Stowage capacity of 35 machines
Machinery:	Parsons single reduction geared turbines. 2 shafts. S.H.P.: 42,000= 24·5 kts. (*designed*)
Boilers:	4 Admiralty 3-drum type
Complement:	1,100 officers and ratings (*peace*) 1,300 officers and ratings (*war*)

General Notes

This ship was handed over to the Royal Australian Navy on 16 Dec. 1948, accepted for service on 5 Feb. 1949, sailed from Devonport on 12 April 1949 and arrived in Australia in May, 1949.

Employed as a training ship, having been placed in training status in Apr. 1955. It was officially announced on 4 Apr. 1957 that the second aircraft carrier, *Sydney*, would have a flying training role, but in Feb. 1958 it wa officially stated that she was paying off and was to be immobilised. The ship is now in reserve.

Notes to Drawing

Port elevation and plan. Scale: 128 ft.=1 inch.

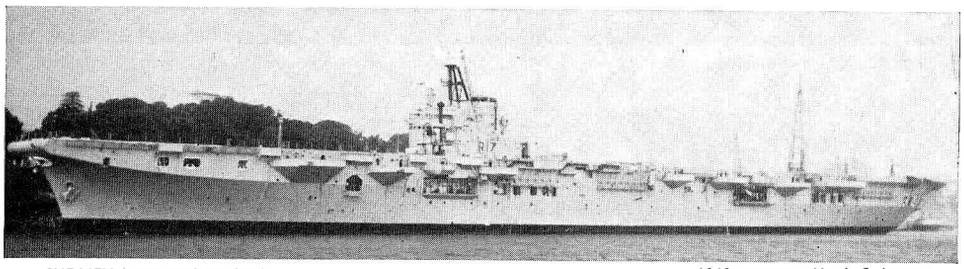
Fleet Air Arm Notes

It was officially announced by the Minister of Defence in Dec. 1959 that special emphasis in Navy policy would be on anti-submarine defence. The Cabinet had decided to disband the Fleet Air Arm by 1963 when its existing aircraft would reach the end of their service life. More and larger aircraft would call for a larger aircraft carrier, the cost of which would be prohibitive.

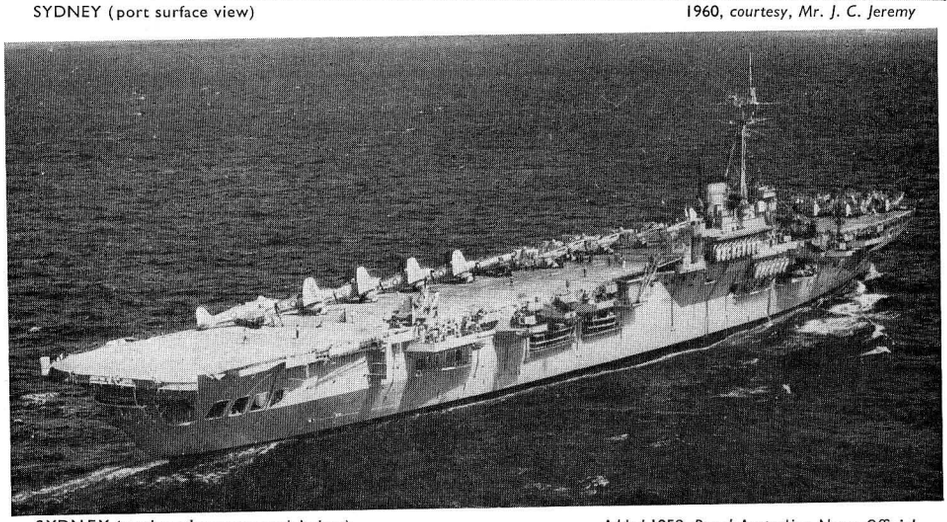
One of the Maritime Reconnaissance squadrons will be equipped with an improved type of Neptune aircraft, and helicopters will be provided for the Navy and the Air Force.

Recent Disposal of Cruiser

The light cruiser *Hobart* (ex-*Apollo*) of the "Amphion" Class, the Royal Australian Navy's sole surviving cruiser, was officially declared for disposal in 1960. (Full particulars and photograph of this ship after her modernisation refit and conversion appear in the 1957-58 to 1959-60 editions. A photograph of the *Hobart* before reconstruction appears in the 1951-52 to 1957-58 editions.)



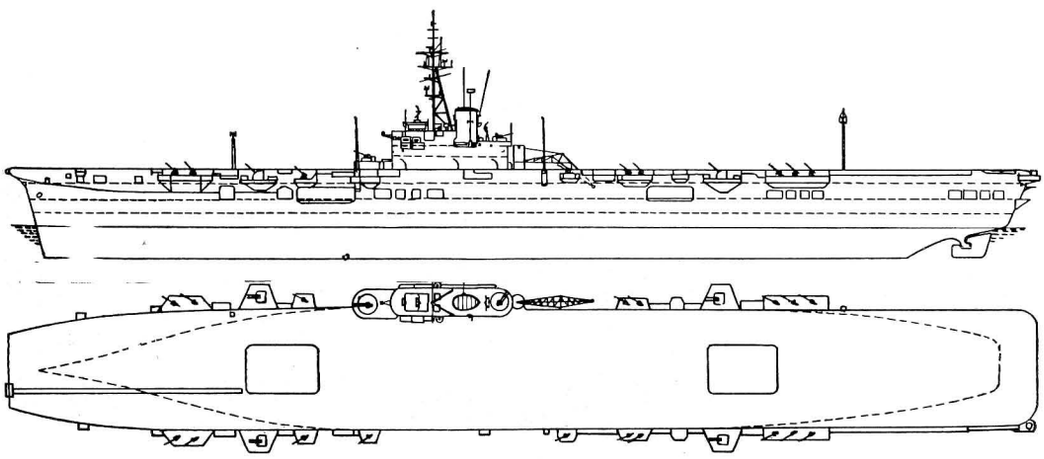
SYDNEY (port surface view) 1960, *courtesy, Mr. J. C. Jeremy*



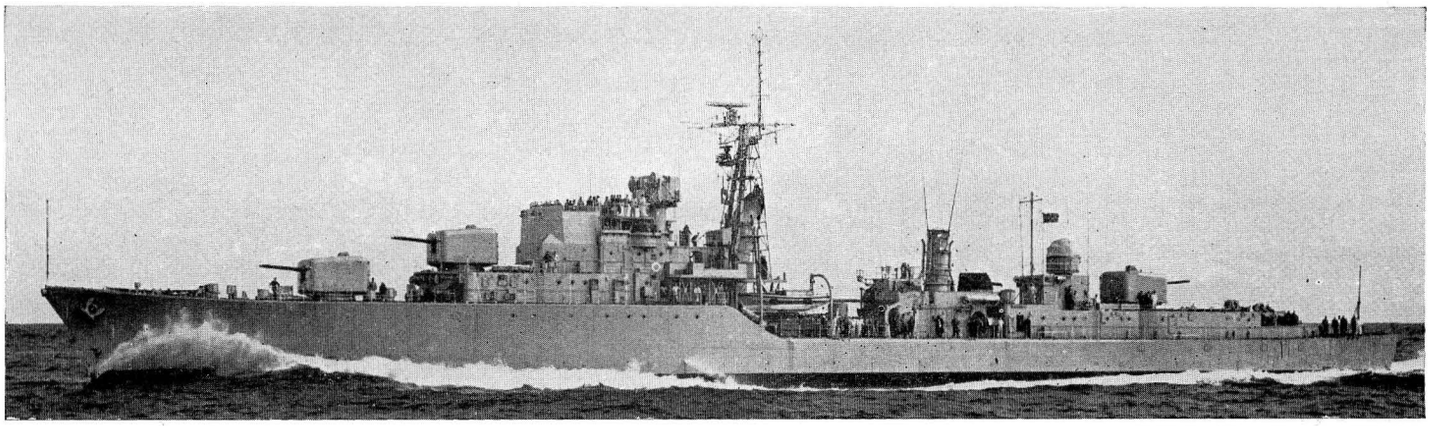
SYDNEY (starboard quarter aerial view) *Added* 1958, *Royal Australian Navy, Official*



SYDNEY (starboard bow oblique aerial view) 1954. *Skyfotos*



DESTROYERS



VOYAGER (port broadside) 1957, *Royal Australian Navy, Official*

3 " Daring " Class

VAMPIRE	VENDETTA	VOYAGER

Displacement:	2,800 tons *standard* (3,600 tons *full load*)
Dimensions:	366 (*pp.*), 390 (*o.a.*) × 43 × 12¾ (*mean*), 17 (*max.*) feet
Guns:	6—4·5 inch in twin turrets, two forward and one aft, 6—40 mm. Bofors AA.
Tubes:	5—21 inch in quintuple mounting
A/S weapons:	Limbo three-barrelled depth charge mortar
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 54,000=34·75 kts. (*designed*) 30·5 kts. sea speed
Boilers:	2
Oil fuel:	700 tons
Radius:	3,000 miles at 20 kts.
Complement:	300 officers and ratings

General Notes

These ships are the largest destroyers ever built in Australia. They were all ordered in 1946. The ships are powerfully equipped for both offensive and defensive purposes and have automatic radar steering. *Voyager* commissioned at Sydney on 12 Feb. 1957.

Design Notes

Of modern design, including all welded construction, similar to that of " Daring " class, built in Great Britain; but have been modified to suit Australian conditions. As compared with the " Daring " class destroyers built in Great Britain, these ships have five fewer torpedo tubes. On the other hand they have " Limbo " instead of " Squid " anti-submarine weapons.

Construction Notes

Voyager, the first Australian all-welded steel ship, was built in sections and assembled on the slipway from which she was launched. The superstructure is of light alloy to reduce weight and thus increase speed.

Gunnery Notes

The anti-aircraft batteries are laid and fired by radar.

Appearance Notes

It is officially stated that the silhouettes of *Vampire* and *Vendetta* differ from the silhouette of *Voyager*, the first and prototype ship of the class.

Photograph Notes

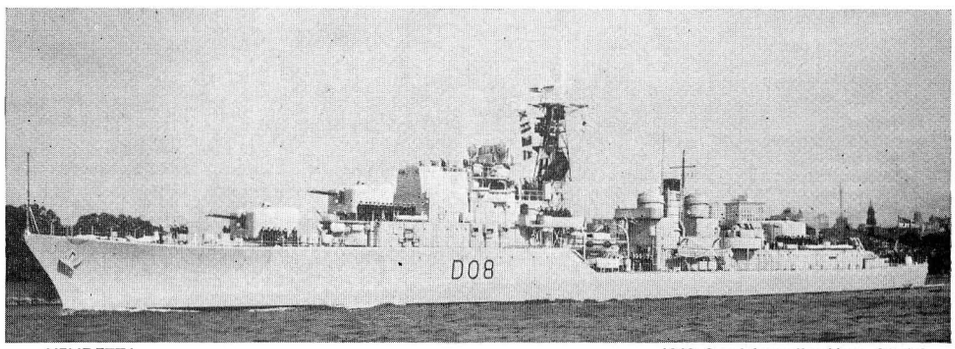
A starboard bow view of *Voyager* and a starboard quarter view of *Voyager* showing the Limbo three-barrelled depth charge mortar on the stern, appear in the 1957-58 to 1959-60 editions.

Class Notes

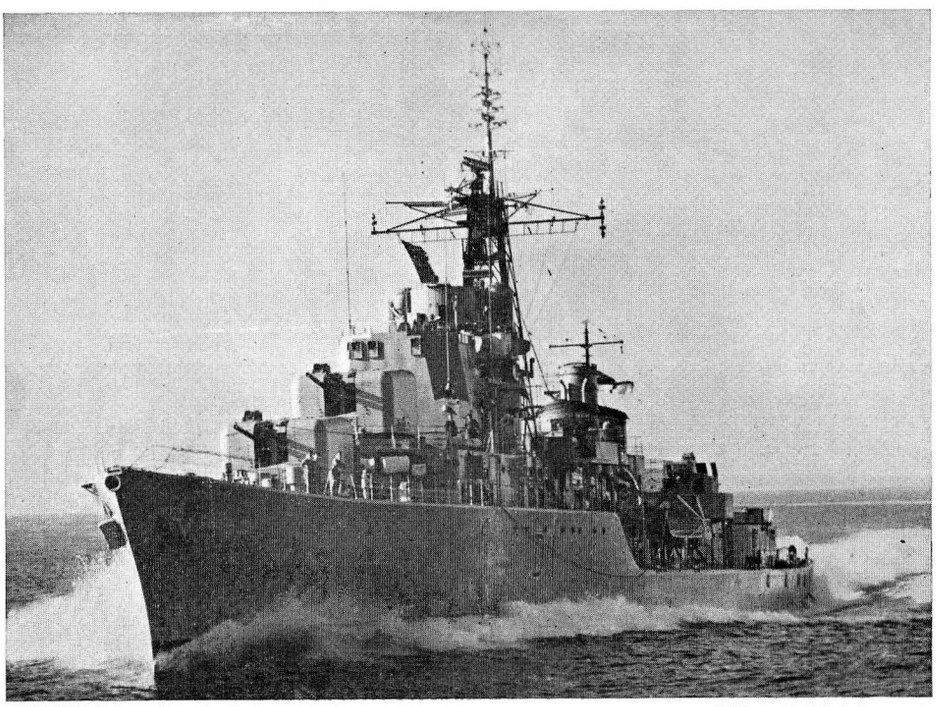
Four ships were originally projected, to be named after the R.A.N.'s famous " Scrap Iron Flotilla " of destroyers which won renown in the Mediterranean on the Tobruk ferry run and in other areas in the Second World War, but the *Waterhen* was cancelled in 1954.

Name	*Begun*	*Launched*	*Completed*
Vampire	1 July 1952	27 Oct. 1956	23 June 1959
Vendetta	4 July 1949	3 May 1954	26 Nov. 1958
Voyager	10 Oct. 1949	1 May 1952	12 Feb. 1957

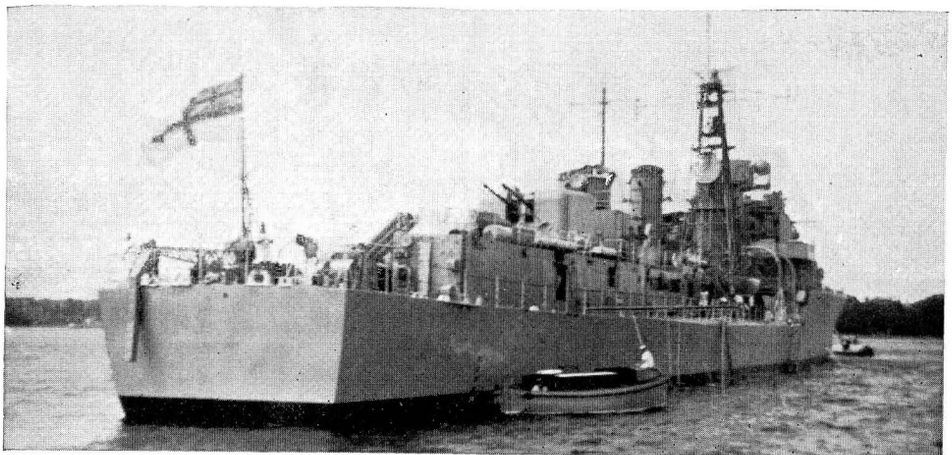
Pennant No.	*Name*	*Builders*
D 11	*Vampire*	Cockatoo Island Dockyard, Sydney
D 08	*Vendetta*	H.M.A. Naval Dockyard, Williamstown
D 04	*Voyager*	Cockatoo Island Dockyard, Sydney



VENDETTA 1960, *Royal Australian Navy, Official*



VAMPIRE (port bow view) 1959, *courtesy J. C. Jeremy*



VOYAGER (starboard quareer, showing Limbo) 1957, *courtesy Mr. J. C. Jeremy*

Destroyers—*continued*



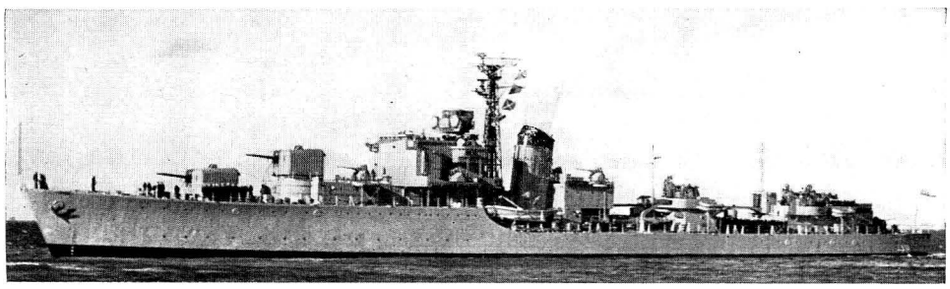
TOBRUK

Added 1957, *Royal Australian Navy, Official*

2 " Battle " Class

	ANZAC	TOBRUK
Name:	*Anzac*	*Tobruk*
Pennant No.:	D 59	D 37
Builders:	Williamstown Naval Dockyard	Cockatoo Docks & Eng. Co. Pty. Ltd.
Laid down:	23 Sep. 1946	5 Aug. 1946
Launched:	20 Aug. 1948	20 Dec. 1947
Completed:	22 Mar. 1951	17 May 1950

Displacement:	2,480 tons *standard* (3,375 tons *full load*)
Dimensions:	355 (*pp.*), 379 (*o.a.*) × 41 × 12¾ (*mean*), 13½ (*max.*) feet
Guns:	4—4·5 inch, 12—40 mm. AA.
Tubes:	10—21 inch
A/S weapons:	Squid triple-barrelled depth charge mortar
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 50,000=35·75 kts. (*designed*), 31 kts. (sea speed)
Boilers:	2 Admiralty 3-drum type
Complement:	290



ANZAC

1953, *R.A.N., Official*

General Notes

Ordered in 1945-46. Very similar to the " Battle " class fleet destroyers in the Royal Navy, but several alterations were incorporated, including secondary armament, sleeping accommodation for officers and men fore and aft, and improved mess layout and other amenities. The ships have modern radar fire control, close range Staag armament (new type of twin 40 mm. Bofors gun mounting) and the latest anti-submarine weapons. *Tobruk* joined the fleet on 16 Jan. 1951. Cost £2,470,000. *Anzac* commenced trials on 20 Dec. 1950, and commissioned on 14 Mar. 1951. Cost £2,500,000.

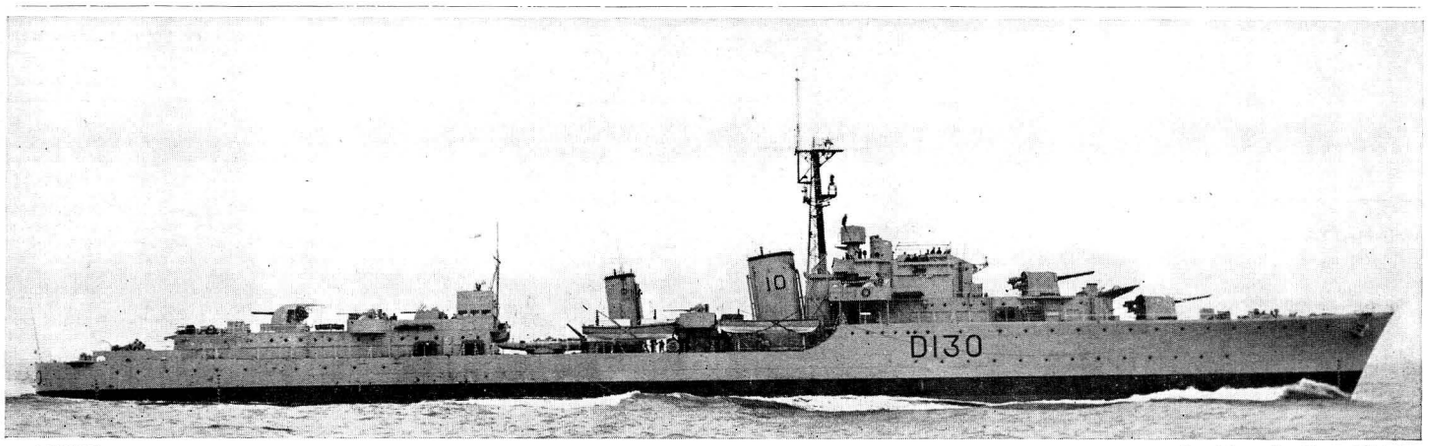
Gunnery Notes

Anzac has the first " Daring " type 4·5 inch guns and mountings of completely Australian manufacture (weight of each twin mount is *approx.* 50 tons). They are reported to be fully automatic, with a rate of fire of 25 rounds per minute, and an accurate range of over ten miles, firing a shell weighing 53 lb. The 4·5 inch guns for *Tobruk* were imported from Great Britain.

Appearance Nores

Both *Anzac* and *Tobruk* have a clinker screen or funnel cowl fitted to keep the bridge clear of exhaust fumes and funnel gases in a following breeze.

ANTI-SUBMARINE DESTROYERS



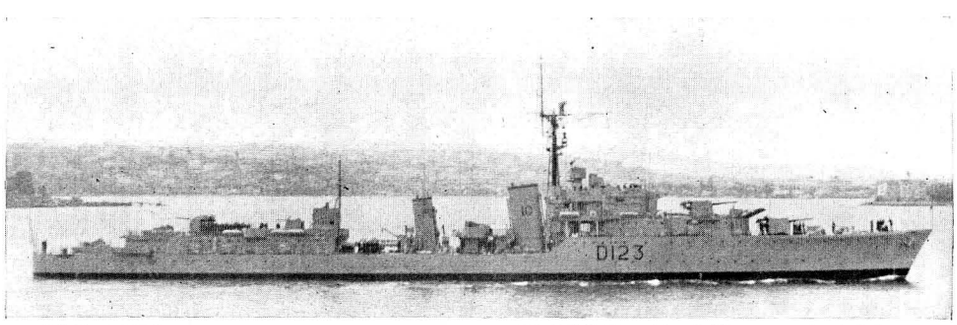
ARUNTA

Royal Australian Navy, Official

2 Improved " Tribal " Class

	ARUNTA	WARRAMUNGA
Name:	*Arunta*	*Warramunga*
Pennant No.:	D 130	D 123
Laid down:	15 Nov. 1939	10 Feb. 1940
Launched:	30 Nov. 1940	7 Feb. 1942
Completed:	3 Mar. 1942	23 Nov. 1942

Displacement:	2,200 tons *standard* (2,800 tons *full load*), revised figures
Dimensions:	355½ (*pp.*), 377½ (*o.a.*) × 36½ × 9 feet (15½ feet *max.*)
Guns:	2—4·7 inch, 2—4 inch, 8—40 mm. AA., 4 M.G.
Tubes:	4—21 inch
A/S weapons:	Squid triple barrelled depth charge mortar aft in " Y " position
Machinery:	Parsons geared turbines. S.H.P.: 44,000=36·5 kts. (*designed*) 32 kts. sea speed
Boilers:	3 Admiralty 3-drum type
Complement:	250



WARRAMUNGA

Added 1960 (*Photo Nov.* 1959), *courtesy Mr. J. C. Jeremy*

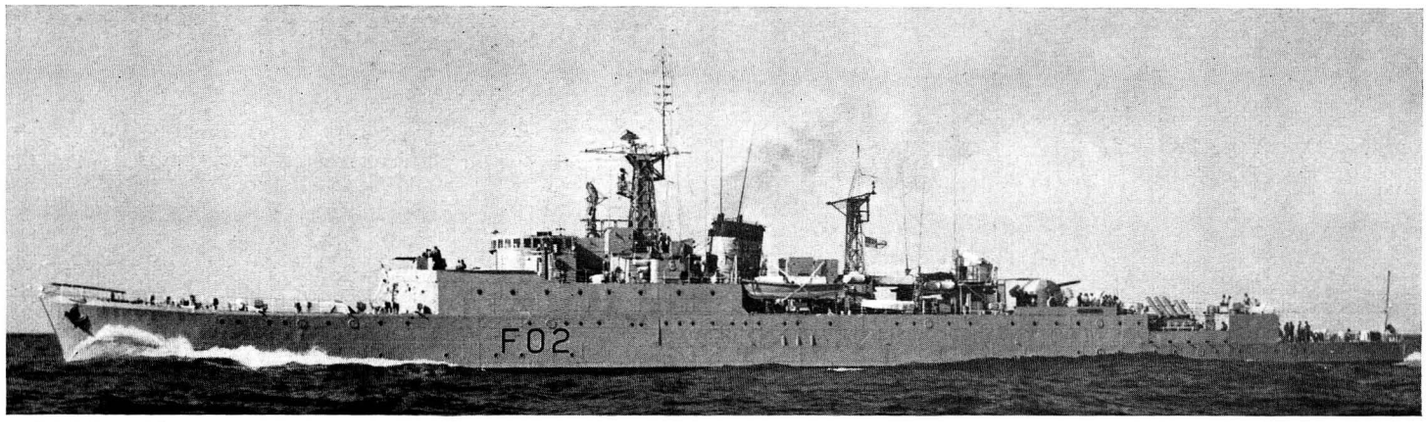
General Notes

Both built by Cockatoo Docks & Engineering Co. Pty. Ltd. *Arunta* underwent a large-scale refit and modernisation, her guns being removed and her deckhouse aft extended towards the stern. She was re-armed with different pattern guns and A/S weapons and reclassified as an anti-submarine destroyer. She was placed in reserve in 1957. The conversion of *Warramunga* to an anti-submarine destroyer was completed in 1954. She was placed in reserve in 1960.

Recent Disposal

It was officially stated in 1957 that the third ship of this class, H.M.A.S. *Bataan*, had been declared for disposal, and she has since been scrapped.

FAST ANTI-SUBMARINE FRIGATES (ex *Destroyers*)



QUEENBOROUGH 1960 *Royal Australian Navy, Official*

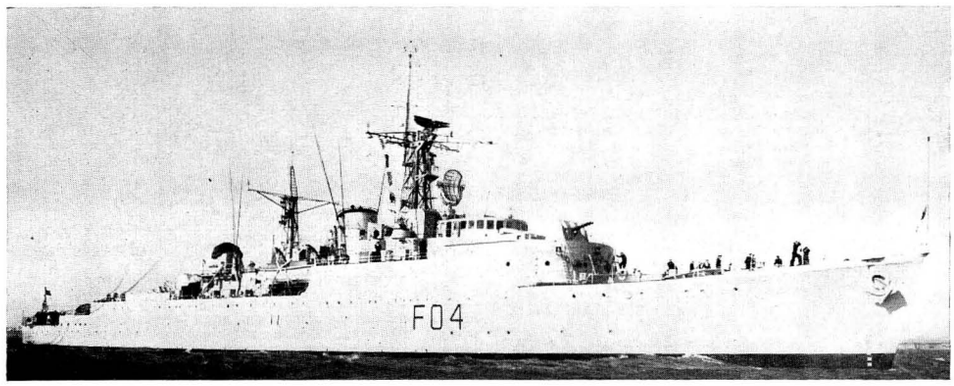
4 "Queenborough" Class
(Fully Converted from Destroyers)

QUADRANT **QUIBERON**
QUEENBOROUGH **QUICKMATCH**

Displacement:	2,000 tons *standard* (2,700 tons *full load*)
Dimensions:	358¾ × 35¾ × 9½ (15½ *max.*) feet
Guns:	2—4 inch (twin-mount), 2—40 mm., Bofors AA.
A/S weapons:	2 ahead throwing improved squids (triple) in *Quadrant*, Limbo in *Queenborough*
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (*designed*) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Complement:	220 (war)

Pennant No.	*Name*	*Builders*
F 01	*Quadrant*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne
F 02	*Queenborough*	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
F 03	*Quiberon*	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
F 0	*Quickmatch*	J Samuel White & Co. Ltd., Cowes, Isle of Wight.

Name	*Laid down*	*Launched*	*Completed*
Quadrant	24 Sep. 1940	28 Feb. 1942	26 Nov. 1942
Queenborough	6 Nov. 1940	16 Jan. 1942	10 Dec. 1942
Quiberon	14 Oct. 1940	31 Jan. 1942	22 July 1942
Quickmatch	6 Feb. 1941	11 Apr. 1942	30 Sep. 1942



QUICKMATCH 1957, *R.A.N., Official*

Notes

Formerly in the Royal Navy. Lent to the Royal Australian Navy in 1943 (*Quiberon*, *Quickmatch*) and 1945 (*Quadrant*, *Quality*, *Queenborough*). Transferred permanently June 1950 when it was announced they would all be converted to fast anti-submarine frigates similar to *Relentless* and *Rocket* in Great Britain section, the conversions being effected at Cockatoo Island and Williamstown dockyards, but only four of the ships were reconstructed (*Quality* was not converted, see *Recent Disposal* note). *Quadrant* completed conversion and re-commissioned 16 July 1953 (now in reserve), *Queenborough* 7 Dec. 1954, *Quickmatch* 23 Sep. 1955, *Quiberon* recommissioned on 18 Dec. 1957 (trials Sep. 1957).

Photograph Notes

A photograph of *Quadrant* appears in the 1954-55 to 1957-58 editions, and a photograph of *Quiberon* appears in the 1958-59 and 1959-60 editions.

Recent Disposal

It was officially stated in 1957 that the fifth ship of this class, H.M.A.S. *Quality*, the only destroyer of the class to remain unconverted into a fast anti-submarine frigate, had been declared for disposal.

ANTI-SUBMARINE FRIGATES

4 New Construction

PARRAMATTA **YARRA**

Displacement:	2,200 tons *standard* (2,800 tons *full load*)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch d.p., 2—40 mm. AA.
Tubes:	12—21 inch (8 single A/S, two twin)
Guided Missiles:	Provision for "Seacat" close range surface-to-air weapons to replace 40 mm. guns
A/S weapons:	2 Limbo three barrelled depth bomb mortars
Machinery:	Geared turbines. 2 shafts. S.H.P.: 34,000=30 kts.
Boilers:	2 Babcock & Wilcox

Notes

The design of these ships is generally similar to that of the "Whitby" class anti-submarine frigates in the Royal Navy, but it was modified by the Royal Australian Navy to incorporate improvements in equipment and habitability.

It was announced in Aug. 1950 that six new fast anti-submarine frigates were to be laid down, three to be built at Cockatoo Island Dockyard, Sydney, and three at the Naval Dockyard, Williamstown; but only four are being proceeded with, two at each yard. Although they are called anti-submarine frigates, they are actually more like destroyers, in which the capacity for anti-submarine operations was the principal factor in determining the provision of weapons and equipment. *Yarra* was launched from the Williamstown Naval Dockyard, Melbourne, on 30 Sep. 1958. *Parramatta* was launched from Cockatoo Island Dockyard, Sydney, on 31 Jan. 1959. Cost nearly £A5,000,000 each.

FRIGATES

3 Australian "Bay" Type

CULGOA (ex-*Macquarie*) **SHOALHAVEN**
MURCHISON

Displacement:	1,544 tons *standard* (2,106 tons *full load*)
Dimensions:	283 (*pp.*), 301 (*o.a.*) × 36½ × 12 (*mean*) feet
Guns:	4—4 inch, 3—40 mm AA. 4—20 mm. AA.
A/S weapons:	1 hedgehog, 4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	177

General Notes

These ships are of an improved "River" class design, or Australian versions of the "Bay" class. All were refitted with lattice mast by 1955. *Shoalhaven* is in reserve.

Photograph Notes

A photograph of *Murchison* appears in the 1955-56 to 1957-58 editions.

Recent Disposal

Sister ship *Condamine* was officially declared for disposal in 1960.



SHOALHAVEN 1955, *R.A.N., Official*

Pennant No.	*Name*	*Builders*
F 408	*Culgoa*	Williamstown Naval Dockyard, Melbourne
F 442	*Murchison*	Evans, Deakin & Co. Ltd., Brisbane
F 535	*Shoalhaven*	Walkers, Ltd., Maryborough

Name	*Laid down*	*Launched*	*Completed*
Culgoa	15 July 1943	Sep. 1944	Dec. 1946
Murchison	3 June 1943	31 Oct. 1944	17 Dec. 1946
Shoalhaven	1 Dec. 1943	14 Dec. 1944	1 May 1945

Frigates—*continued*

5 Australian " River " Class

BARCOO **DIAMANTINA**
BARWON **GASCOYNE**
MACQUARIE

Displacement: 1,420 tons *standard* (2,220 tons *full load*)
Dimensions: 283 (*pp.*), 301½ (*o.a.*) × 36¾ × 12 feet
Guns: 2—4 inch, 2—40 mm. AA., 6 to 20 M.G.
A/S weapons: 2 squids (triple barrelled) in " B " position in *Barcoo* and *Macquarie*. 4 D.C.T.
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers: 2 Admiralty 3-drum type
Complement: 140

General Notes

All are of " River " design. Officially stated to have been equipped with the most modern anti-submarine devices. *Barcoo, Diamantina* and *Gascoyne* have recently been converted for survey and oceanographic research duties. The conversion in 1959-60 included the provision of special laboratories and the fitting of a helicopter platform. *Lachlan*, employed on surveying duties, is loaned to the Royal New Zealand Navy for hydrographic work and oceanographic research.

Gunnery Notes

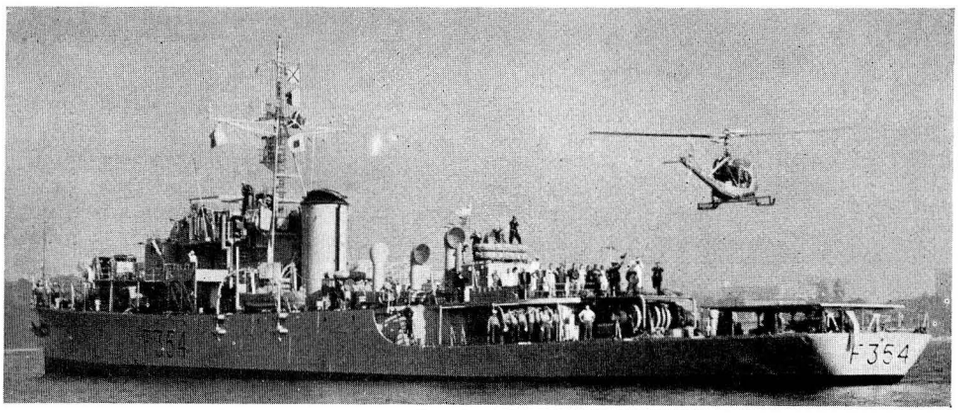
Forward 4-inch gun is in " A " position in *Barcoo* and *Macquarie*. Superimposed 40 mm. gun in *Barcoo* (see photo).

Photograph Notes

Photograph of *Macquarie* in the 1953-54 to 1957-58 editions. Photograph of *Hawkesbury* in the 1954-55 to 1959-60 editions.

Recent Disposals

Sister ships *Burdekin* and *Hawkesbury* were officially declared for disposal in 1960.



BARCOO (converted for survey, with helicopter platform) 1960, *Royal Australian Navy, Official*

Pennant No.	*Name*	*Builders*	*Name*	*Laid down*	*Launched*	*Completed*
F 175	*Barcoo*	Cockatoo Docks	*Barcoo*	21 Oct. 1942	26 Aug. 1943	17 Jan. 1944
F 406	*Barwon*	Cockatoo Docks	*Barwon*	31 May 1943	3 Aug. 1944	12 Jan. 1946
F 377	*Diamantina*	Walkers, Maryborough	*Diamantina*	12 Apr. 1943	6 Apr. 1944	27 Apr. 1945
F 354	*Gascoyne*	Mort's Dock, Sydney	*Gascoyne*	4 June 1942	20 Feb. 1943	20 Dec. 1943
F 532	*Macquarie*	Mort's Dock, Sydney	*Macquarie*	3 Dec. 1943	3 Mar. 1945	21 Dec. 1945

2 " Swan " Class

(Ex-*Sloops*)

	SWAN	**WARREGO**
Name:	*Swan*	*Warrego*
Pennant No.:	F 74	A 312
Builders:	Cockatoo Docks & Engineering Co. Pty., Ltd.	Cockatoo Docks & Engineering Co. Pty., Ltd.
Laid down:	1 May 1935	15 May 1939
Launched:	28 Mar. 1936	10 Feb. 1940
Completed:	10 Dec. 1936	1 Aug. 1940

Displacement: 1,060 tons *standard* (1,575 tons *full load*)
Dimensions: 250 (*pp.*), 263 (*w.l.*), 266 (*o.a.*) × 36 × 7¼ (*mean*) feet
Guns: 2—4 inch, 1—40 mm. AA.
Machinery: 2 sets Parsons geared turbines. S.H.P.: 2,000=16·5 kts.
Boilers: 2 Admiralty 3-drum type
Oil fuel: 275 tons
Complement: 125

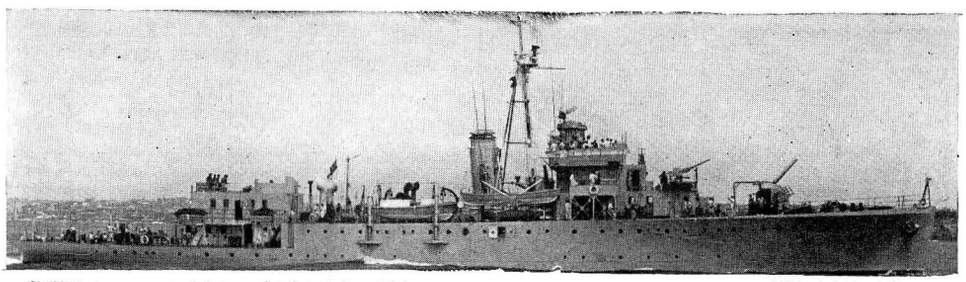
General Notes

Formerly classed as Sloops. *Warrego* is employed on Surveying service but retains armament for training purposes. *Swan* was refitted in 1955 as a training ship for cadet-midshipmen passing out of the R.A.N. College.

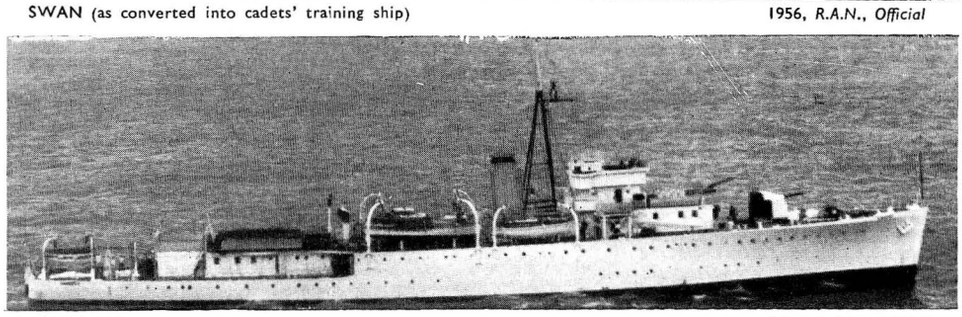
Second World War losses of this type were *Parramatta* and *Yarra*.

Submarine Notes

Submarines of the Royal Navy's Fourth Submarine Squadron are based on Sydney, Australia, for anti-submarine training.



SWAN (as converted into cadets' training ship) 1956, *R.A.N., Official*



WARREGO 1956, *R.A.N., Official*

OCEAN MINESWEEPERS

4 " Bathurst " Class

Pennant No.		*Launched*
	3 *Mort's Dock, Sydney*	
M 05	**COLAC**	13 Aug. 1941
M 207	**MILDURA**	15 May 1941
M 183	**WAGGA**	25 July 1942
	1 *Williamstown Dockyard*	
M 244	**CASTLEMAINE**	3 Aug. 1942

Displacement: 815 tons *standard* (1,025 tons *full load*)
Dimensions: 162 (*pp.*), 186 (*o.a.*) × 31 × 8½ (*mean*) feet
Guns: 1—4 inch, 1—40 mm. AA., 6 M.G. (Armament varies in different ships)
Machinery: Triple expansion. 2 shafts. I.H.P.: 1,800=15·5 kts.
Boilers: 2 Admiralty 3-drum small tube type

General Notes

Builders above. Designed displacement was 650 tons (860 tons *full load*). Design is generally similar to the standard British emergency "Bangor" type. 60 ships of the "Bathurst" type were built in Australia, including 4 for the Indian Navy, and 20 on account of the Admiralty,which last, however,were manned and commissioned by the Royal Australian Navy. 8 " Admiralty " ships were sold to the Royal Netherlands Navy (4 of which were subsequently transferred to the Indonesian Navy) and 5 to the Turkish Navy after the war. *Warrnambool* was sunk by a mine off Queensland coast, 13 Sep. 1947. *Echuca, Inverell, Kiama* and *Stawell* were given to New Zealand 1952. H.M.A.S. *Castlemaine* is immobile at Flinders Naval Depot and is used as a stationary training ship. *Mildura* is employed as a stationary training ship at Brisbane for naval reservists in Queensland. *Wagga* is used as a Reserve Training Ship at Sydney.



WAGGA 1960, *Royal Australian Navy, Official*

Recent Disposals

Bowen, Deloraine, Horsham, Latrobe, Lithgow and *Townsville* were disposed of in 1956. *Gladstone, Glenelg, Katoomba* and *Parkes* were disposed of in 1957.

Benalla, Dubbo, Junee and *Shepparton* were declared for disposal in 1958.

Bundaberg and *Gympie* were officially declared for disposal in 1959.

Ararat, Bunbury, Cootamundra, Cowra, Fremantle, Kapunda, Rockhampton and *Strahan* were officially declared for disposal in 1960.

Photograph Notes

Photograph of *Colac* in the 1957-58 to 1959-60 editions. Photograph of *Cowra* in the 1953-54 to 1959-60 editions.

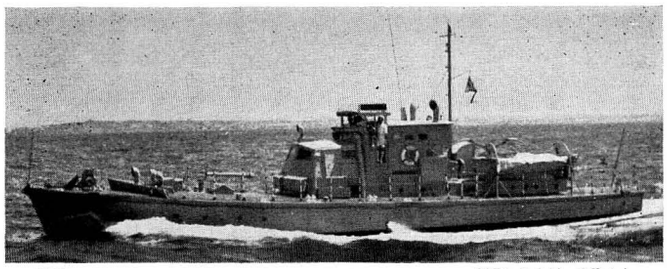
Second World War losses:

Armidale, Geelong, Walaroo.

Cancellation Note

Orders for the four new Coastal Minesweepers were cancelled in 1956.

SEAWARD DEFENCE BOATS



SDB 1957, *R.A.N., Official*

3 HDML Type

SDB 1321 **SDB 1324** **SDB 1325**

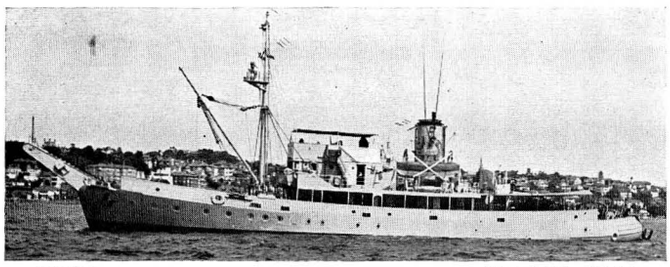
Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—3 pdr., 1—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 320=12 kts.
Complement:	14

General Notes
Originally known as Harbour Defence Motor Launches (HDML) and afterwards as Seaward Defence Motor Launches (SDML). *SDML 1322* was officially stricken off 1953. Remaining four were redesignated Seaward Defence Boats (SDB) in 1957. SDB 1327 was officially stricken from the list in 1960.

Transfer Notes
SDB 1323, 1326, 1328 and 1329 were returned to Australia in 1958 from Hong Kong where they had been lent to the Royal Navy, and were transferred to the Philippine Navy in 1959.

Cancellation Note
Orders for four new Seaward Defence Boats were cancelled in 1956.

TRIALS VESSEL



KIMBLA 1957, *R.A.N., Official*

KIMBLA

Displacement:	733 tons *standard* (970 tons *full load*)
Dimensions:	179 × 32 × 14 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	Triple expansion. Oil fuel. 11 kts.
Complement	32

General Notes
Built as a boom defence vessel by Walkers Ltd., Maryborough. Laid down on 21 Aug. 1952. Launched in Nov. 1953. Completed on 23 Mar. 1955. Commissioned on 13 Dec. 1955. Converted to a Trials Vessel in 1959.

Cancellation Notes
Orders for two more new Boom Defence Vessels of this class were cancelled in 1956.

BOOM DEFENCE VESSELS

3 "Kangaroo" Class

KANGAROO **KARANGI** **KOALA**

Displacement:	768 tons *standard* (1,000 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 32¼ × 9½ (14 *max.*) feet
Guns:	1—3 inch AA.
Machinery:	Triple expansion. I.H.P.: 850=11·5 kts.
Boilers:	2
Oil fuel:	140 tons
Complement:	32

General Notes
Boom defence working and mooring vessels. Similar to the "Bar" type boom defence vessels in the Royal Navy. All in reserve.

Photograph Notes
Photograph of *Karangi* in the 1957-58 (Diamond Jubilee) edition.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
P 80	*Kangaroo*	16 Nov. 1939	4 May 1940	26 Sep. 1940
P 282	*Karangi*	5 Feb. 1941	16 Aug. 1941	10 Dec. 1941
P 69	*Koala*	21 June 1939	4 Nov. 1939	7 Feb. 1940

KOOKABURRA

Displacement:	533 tons *standard*
Dimensions:	120 (*pp.*), 135 (*o.a.*) × 26½ × 10¼ feet
Guns:	1—3 inch AA.
Machinery:	Triple expansion. I.H.P.: 450=9·5 kts.
Boilers:	1 cylindrical
Oil fuel:	82 tons

General Notes
Built at Cockatoo Island Dockyard, Sydney. Launched on 29 Oct. 1938. This smaller boom working vessel is similar to the "Net" class boom defence vessels formerly in the Royal Navy but now discarded.

SURVEY SHIP (SMALL)

PALUMA

Displacement:	250 tons
Dimensions:	120 × 24 × 6¾ (*mean*) feet
Machinery:	Diesel. Speed=10 kts.

Notes
A motor stores lighter of wartime construction converted into a small survey vessel in 1956.

SEA AIR RESCUE LAUNCHES

1 New Construction

Notes
One new launch of a type similar to the "Air" class below is being built.

4 "Air" Class

AIR CHIEF SAR 918 **AIR SPEED** SAR 910 **AIR TRAIL** SAR 916
AIR MASTER SAR 919

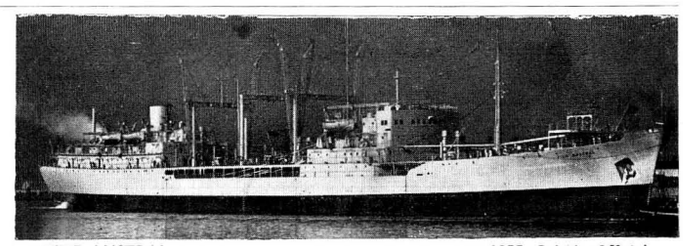
Displacement:	23½ tons
Dimensions:	63 × 15¼ × 4 feet
Machinery:	2 Hall Scott Defender engines. 2 shafts. B.H.P.: 630=33·5 kts
Radius:	200 miles

General Notes
These launches of the R.A.N. Search and Rescue Unit at Jervis Bay are fitted with radio and scientific equipment.

Photograph Notes
A photograph of *Air Trail* appears in the 1957-58 (Diamond Jubilee) edition.

Recent Disposals
A sister boat, *Air Mercy*, SAR 925, was officially stricken from the list in 1960.
The depot ship *Platypus* (ex-*Penguin*, ex-*Platypus*) was officially stricken from the list in 1960.

FAST FLEET REPLENISHMENT SHIP



TIDE AUSTRAL 1955, *R.A.N., Official*

TIDE AUSTRAL

Displacement:	15,000 tons *standard* (26,000 tons *full load*)
Measurement:	17.600 tons *deadweight*, 11,200 tons *gross*
Dimensions:	550 (*pp.*), 583 (*o.a.*) × 71 × 32 (*max.*) feet
Machinery:	Double reduction geared turbines. S.H.P.: 15,000=18 kts.

Notes
Australian Navy Minister announced on 19th Sep. 1951 that the Government had decided to buy a fast fleet replenishment tanker for the R A N. at a cost of more than £A2,500,000. Ordered through British Admiralty. Built by Harland & Wolff, Ltd., Belfast. Launched, 1 Sep. 1954, completed March 1955. Sister ship of the "Tide" Class Fast Fleet Replenishment Ships in the Royal Navy. Lent to Admiralty until required on the Australian station.

ARMAMENT STORE CARRIER

WOOMERA

Displacement:	603 tons *full load* (Measurement: 300 tons *gross*)
Dimensions:	125 (*o.a.*) × 24 × 12 feet
Machinery:	Ruston Hornsby diesels. 2 shafts. B.H.P.: 306=8·5 (*max.*) kts.
Complement:	3 officers, 17 men

Notes
Armament Store Carrier, manned by naval personnel. 1,000 miles endurance at 7·5 kts.

GENERAL PURPOSE VESSELS

2 "Explorer" Class

BANKS **BASS**

Dimensions:	90 × 22 × 8 feet
Machinery:	Diesel. Speed=10 kts.
Complement:	12

Notes
Of all steel construction. *Banks* is specially fitted for fishery surveillance duties. *Bass* is specially fitted for surveying.

GPV 957 **GPV 961** **GPV 962 (WALRUS)**
GPV 958 **GPV 968 (TALLAROOK)**

Dimensions:	75 × 18 × 7½ (*mean*) feet
Machinery:	Diesel. Speed=10 kts.
Complement:	8

General Notes
Wooden General Purpose Vessels used for Fleet tender and miscellaneous duties.

Recent Disposals
GPV 948 (*Limicola*), GPV 949 (*Larus*), GPV 951 (*Tringa*), GPV 952 (*Sterna*), GPV 953, GPV 954, GPV 956, GPV 959, GPV 960, GPV 963, GPV 964, GPV 965, GPV 966 (*Brolga*) and GPV 967 (*Jabiru*) were officially deleted from the list in 1960.

WARREEN

Dimensions:	82 (*o.a.*) × 19 × 8 (*mean*) feet
Machinery:	Diesel
Complement:	15

Note
This vessel is fitted out for training purposes, it was officially stated in 1960.

FLEET TUGS

RESERVE **SPRIGHTLY**

Displacement:	570 tons *standard* ((800 tons *full load*)
Dimensions:	143 × 33 × 13½ feet
Guns:	1—3 inch AA., 2—20 mm.
Machinery:	Two diesels and two electric motors. Engines fully controllable from bridge. B.H.P.: 1,875=14 kts.
Oil fuel:	186 tons
Complement:	34

General Notes
Reserve commissioned on 10 Dec. 1942 with an Australian crew under Lend-Lease and flew the Australian Red Ensign for 12 months under the control of the Commonwealth Salvage Board, after which she was transferred to the Royal Australian Navy. *Sprightly* is in reserve. Salvage Board tug *Tancred* is sister ship.

Photograph Notes
Photograph of *Reserve* appears in the 1957-58 (Diamond Jubilee) edition.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Reserve	Levingstone S.B. Co.	18 May 1942	18 July 1942	12 Oct. 1942
Sprightly	Orange, Texas, U.S.A.	6 June 1942	7 Aug. 1942	23 Nov. 1942

BRONZEWING DT 932 **EMU DT 931**

Displacement:	250 tons
Dimensions:	98¾ (*o.a.*) × 21¼ × 1 feet
Machinery:	Diesel. 1 shaft. B.H.P.: 510=9½ kts.

Notes
Both built by Mort's Dock, Sydney. Launched on 2 Feb. 1946 and 25 June 1946, respectively. *Emu* is in reserve. *Mollyhawk*, DT 933, was removed from the list in 1958.

ROYAL CANADIAN NAVY

Administration

Minister of National Defence:
The Hon. George R. Pearkes, V.C., C.B., D.S.O., M.C., M.P.

The Hon. Pierre Sevigny, M.P., was appointed Associate Minister of National Defence on 20 August, 1959, the Government announcement stating that he would have equal status with National Defence Minister Pearkes.

Naval Board

The Naval Board was reorganised, effective 1 January, 1960, and is constituted as follows:

Chief of Naval Staff:
Vice-Admiral H. S. Rayner, D.S.C., snd Bar, C.D ; R.C.N.

Vice-Chief of Naval Staff:
Rear-Admiral E. P. Tisdall, C.D., R.C.N.

Chief of Naval Personnel:
Rear-Admiral K. L. Dyer, D.S.C., C.D., R.C.N.

Chief of Naval Technical Services:
Rear-Admiral B. R. Spencer, C.D., R.C.N.

Naval Comptroller:
Rear-Admiral R. A. Wright, O.B.E., C.D., R.C.N.

Secretary to the Naval Board:
Captain A. O. Solomon, C.D., R.C.N.

(Note that rank prefixes, indicating branch of service, e.g. (E), (S), have been eliminated, except in the case of the Medical Branch.)

R.C.N. Golden Jubilee

Official Statement:—

During 1960 the Royal Canadian Navy celebrated its 50th anniversary. Canada's Navy officially came into being when, on May 4, 1910, Royal Assent was granted to the Naval Service Act. That same year two protected cruisers, the *Niobe* and *Rainbow*, were acquired from the Royal Navy. Ships of the R.C.N. have served in three wars. During the First World War the Canadian naval contribution was about 9,600 officers and men and 100 ships. During the Second World War the R.C.N. expanded to 392 armed ships and 95,000 officers, men and wrens, Canada's major naval effort being devoted to the Battle of the Atlantic. Canadian destroyers served in the Far East throughout the Korean War.

The 50th anniversary year, 1960, found the Royal Canadian Navy at its greatest peacetime strength, with 62 warships in commission and with 20,604 officers, men and wrens on full-time duty and 3,550 in the active R.C.N.(Reserve). Forty-nine per cent of R.C.N. personnel were serving on board ship.

Ships

Ships of the R.C.N. carry a maple leaf on the funnel (or after funnel). A broad black band distinguishes the senior ship of a squadron. " Barber Pole " stripes are painted in a narrow band on the funnels of ships of the Fifth Canadian Escort Squadron. (Gatineau, Restigouche, St. Croix, Kootenay, Terra Nova, Columbia and Chaudiere), in the tradition of the " Barber Pole Brigade," mid-ocean escort group of the Second World War.

Personnel

Although the R.C.N.'s strength on 1 January 1960 was 20,604 officers and men, this figure includes naval apprentices and officer cadets, whose numbers are not borne against the authorised strength of 20,000.

Navy Estimates

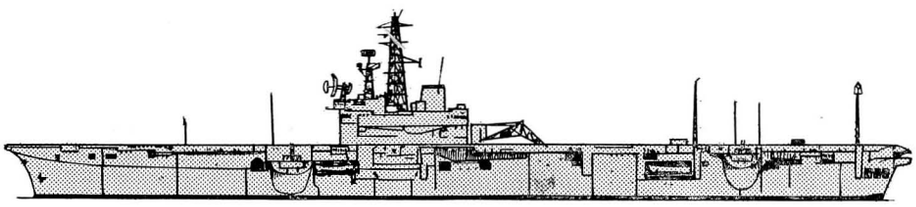
1954-55 : $337,281,000	1957-58: $309,040,000
1955-56 : $326,318,000	1958-59: $280,500,000
1956-57: $330,200,000	1959-60: $287,500,000
	1960-61: $271,300,000

Mercantile Marine

Lloyd's Register of Shipping:
Sea: 694 vessels of 492,708 tons *gross*
Great Lakes: 385 vessels of 1,008,317 tons *gross*
Total: 1,079 vessels of 1,501,025 tons *gross*

Silhouettes

Scale: 150 ft. = 1 inch



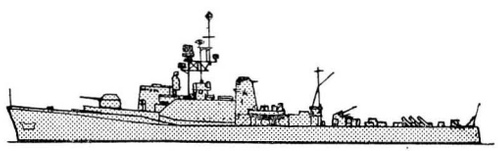
BONAVENTURE



" TRIBAL " *Class*, Group I



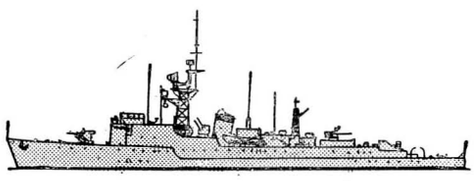
SIOUX (now has funnel cap)



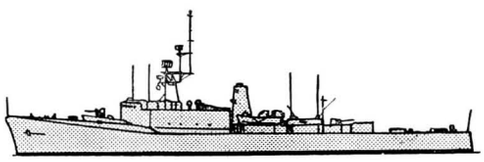
RESTIGOUCHE *Class*



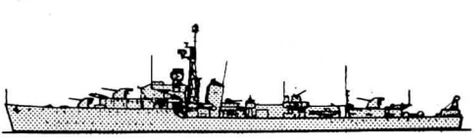
" TRIBAL " *Class*, Group II



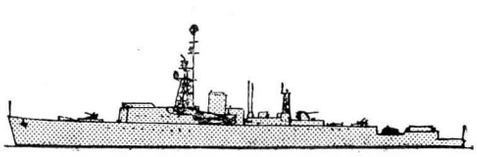
CRESCENT



ST. LAURENT *Class*



CRUSADER

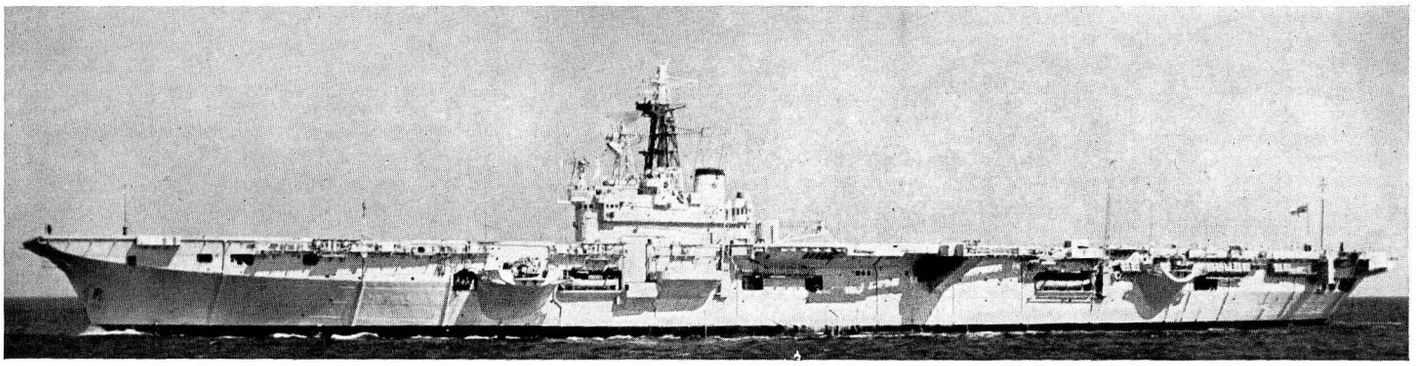


ALGONQUIN



" RIVER " *Class* (Some have deckhouse)

AIRCRAFT CARRIER (CVL)



BONAVENTURE (port broadside) 1959, *Royal Canadian Navy Official*

1 Modified "Majestic" Class

BONAVENTURE (ex-*Powerful*)

No.:	CVL 22
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	27 Nov. 1943
Launched:	27 Feb. 1945
Completed:	17 Jan. 1957
Displacement:	16,000 tons *standard* (20,000 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 720 (*o.a.*) feet. Beam (hull): 80 feet. Width: 112½ feet, 128 (*o.a.*) feet including angled deck and mirrors. Draught: 25 feet
Guns:	8—3 inch (U.S. type new pattern twin mounts), AA. or d.p.; 4—6 pdr. saluting
Aircraft:	34 (capacity) to carry Banshee (F2H) and Tracker (S2F) aircraft
Machinery:	Parsons single-reduction geared turbines. 2 shafts. S.H.P.: 42,000= 24·5 kts. (designed)
Boilers:	4 Admiralty 3-drum type. Steam pressure at engines: 350 lb./sq. in
Complement:	1,370 (war)

General Notes

First aircraft carrier owned by the Royal Canadian Navy, Air recognition number 22 painted on flight deck. Type, Designator and Hull No.: CVL 22. Redesignated RRSM instead of RML in 1957; and CVL instead of RRSM in Jan. 1960. The designator CVL 22 follows the new NATO code and signifies a small ASW aircraft carrier.

Construction Notes

Arrangements were made in 1952 for the purchase by Canada of the suspended aircraft carrier *Powerful* from Great Britain for completion to replace the *Magnificent* returned to the Royal Navy.

The *Powerful* was suspended in May 1946, but construction was resumed in July 1952, and she was renamed *Bonaventure*. She was fitted with the new angled deck.

The *Powerful* was redesigned to handle jet aircraft, plans being revised to provide for a completely modern aircraft carrier: the modification included the strengthening of the flight deck and elevators and improvements in deck arrester gear, and the new British steam catapult, capable of launching jet and heavy types of aircraft was fitted.

Class Notes

The *Magnificent* was officially returned to the Royal Navy, from which she had been on loan since 1946, on 14 June 1957.

Photograph Notes

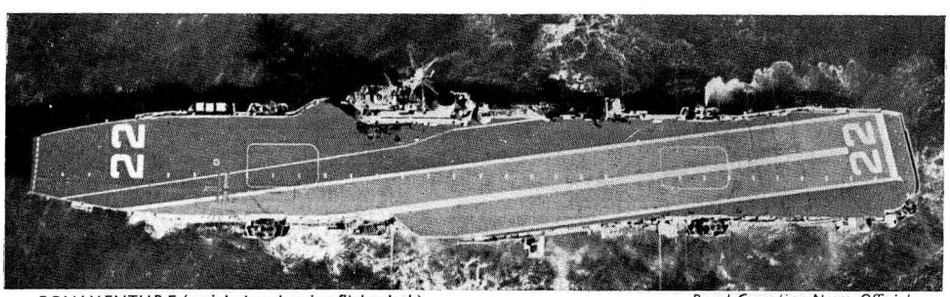
Starboard bow view in 1957-58 edition. Starboard broadside view and port bow view in 1958-59 edition.

Notes to Drawing

Starboard elevation and plan. Redrawn in 1959. Scale: 128 feet=1 inch.



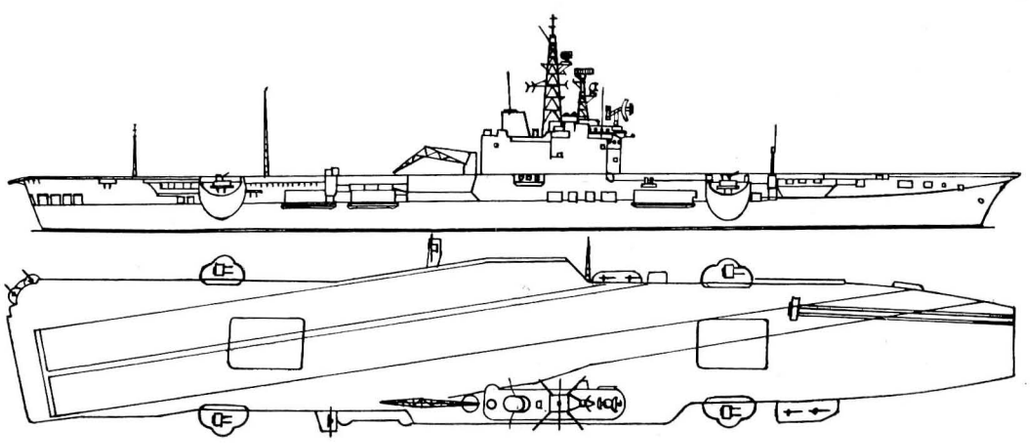
BONAVENTURE (starboard quarter, aerial, showing angled deck) 1958, *Royal Canadian Navy, Official*



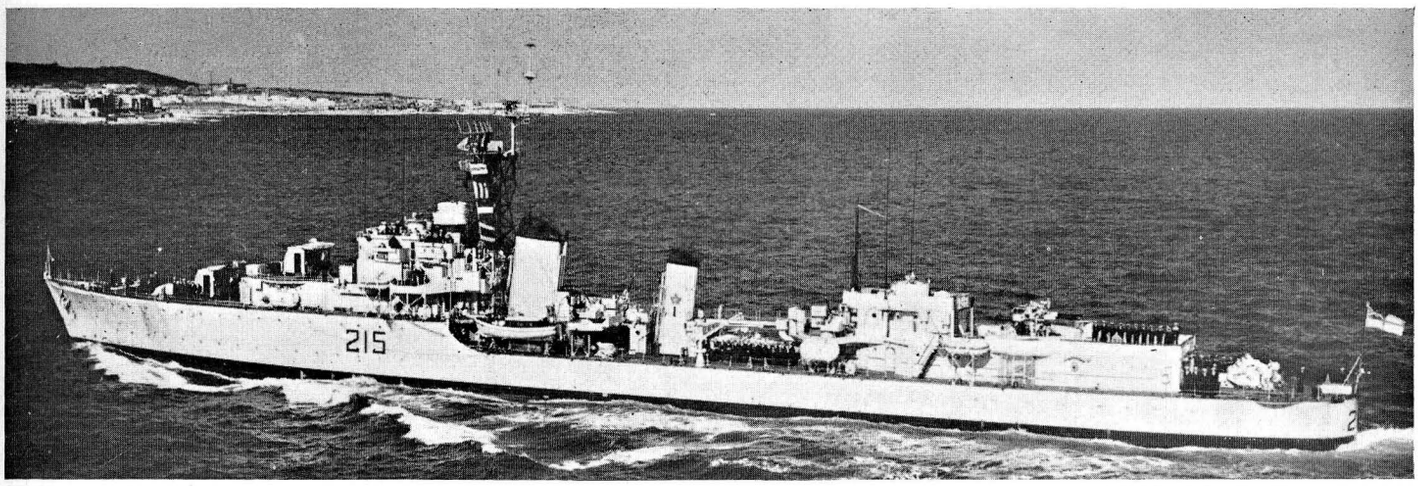
BONAVENTURE (aerial plan showing flight deck) *Royal Canadian Navy, Official*

Recent Disposals of Cruisers

The cruisers *Ontario* (ex-*Minotaur*) and *Quebec* (ex-*Uganda*) were declared surplus to naval requirements at the end of 1958 and have been stricken off the strength.



DESTROYERS (DDE)



HAIDA

1960, *Royal Canadian Navy, Official*

7 Improved " Tribal " Class

GROUP II (Built in Canada)
4 by *Halifax Shipyards, Ltd., Halifax*

ATHABASKAN **MICMAC**
CAYUGA **NOOTKA**

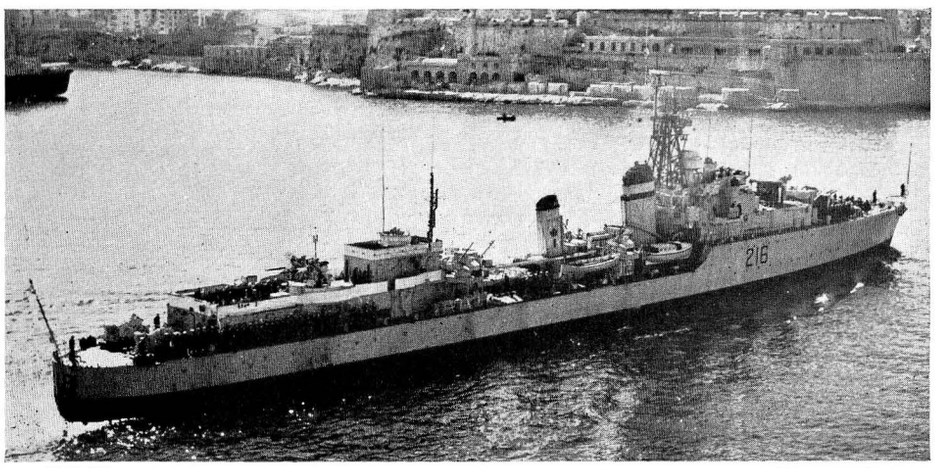
GROUP I (Built in Great Britain)
3 by *Vickers-Armstrongs, Ltd. (Tyne)*

HAIDA **HURON** **IROQUOIS**

Displacement:	2,200 tons *standard* (2,800 tons *full load*) officially revised figures
Dimensions:	355½ (*pp.*), 377 (*o.a.*) × 37½ × 9½, 15⅛ (*aft full load*) feet
Guns:	4—4 inch, 2—3 inch, 4—40 mm. AA.
Tubes:	4—21 inch
A/S weapons:	2 Squid triple-barrelled depth charge mortars.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 44,000=36·5 kts. designed (32 kts. sea speed)
Boilers:	3 Admiralty 3-drum type
Oil fuel:	520 tons
Radius:	1,700 miles at 20 kts.
Complement:	240

No.	*Name*	*Builders*
DDE 219	*Athabaskan*	Halifax Shipyards, Ltd., Halifax
DDE 218	*Cayuga*	Halifax Shipyards, Ltd., Halifax
DDE 215	*Haida*	Vickers-Armstrongs, Ltd., Tyne
DDE 216	*Huron*	Vickers-Armstrongs, Ltd., Tyne
DDE 217	*Iroquois*	Vickers-Armstrongs, Ltd., Tyne
DDE 214	*Micmac*	Halifax Shipyards, Ltd., Halifax
DDE 213	*Nootka*	Halifax Shipyards, Ltd., Halifax

Name	*Laid down*	*Launched*	*Completed*
Athabaskan	15 May 1944	4 May 1946	20 Feb. 1948
Cayuga	7 Oct. 1943	28 July 1945	20 Oct. 1947
Haida	29 Sep. 1941	25 Aug. 1942	18 Sep. 1943
Huron	15 July 1941	25 June 1942	28 July 1943
Iroquois	19 Sep. 1940	23 Sep. 1941	10 Dec. 1942
Micmac	20 May 1942	18 Sep. 1943	14 Sep. 1945
Nootka	20 May 1942	26 Apr. 1944	9 Aug. 1946



HURON

1959, *A. & J. Pavia*

General Notes
All these ships have been refitted and fully modernised. *Cayuga*, *Haida*, *Huron*, *Iroquois* and *Micmac* completed the conversion in 1953-54, and *Athabaskan* and *Nootka* were completed in 1954-55. All ships of the class now have uniform armament (see above) and a new short aluminium lattice foremast and funnel caps. *Athabaskan* was extensively refitted in 1958.

Second World War loss
Athabascan (first ship of the name, built in Great Britain).

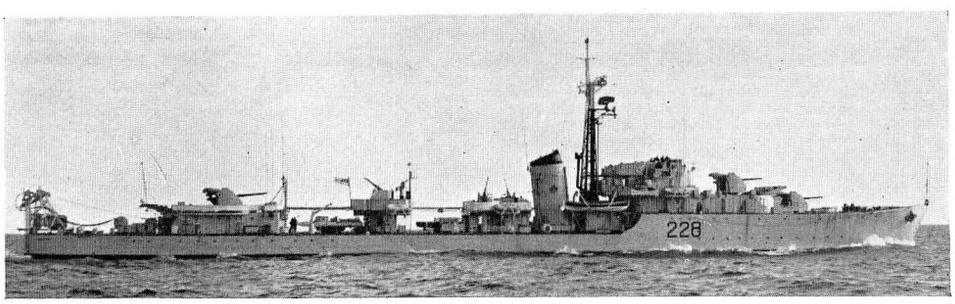
Photograph Notes
Photographs of *Iroquois* and *Micmac* in the 1957-58 edition. Photographs of *Athabaskan* and *Cayuga* in 1958-59 edition.

Appearance Notes
In general, as converted, they are all rigged similar to *Haida* and were refitted basically alike except for some slight differences in their gun direction equipment and bridge arrangements.

1 " C " Class

CRUSADER

No.:	DDE 228
Builders:	John Brown & Co. Ltd. Clydebank
Laid down:	15 Nov. 1943
Launched:	5 Oct. 1944
Completed:	26 Nov. 1945
Displacement:	1,730 tons *standard* (2,560 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 13⅜ (*mean*), 15⅝ (*aft full load*) feet
Guns:	3—4·5 inch, 6—40 mm. AA. Bofors
Tubes:	4—21 inch (quadrupled)
Machinery:	Parsons geared turbines. 2 shafts, S.H.P.: 40,000=36·75 kts.(designed.) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	165 (peace), 250 (war)



CRUSADER (experimental variable depth sonar handling gear on stern)

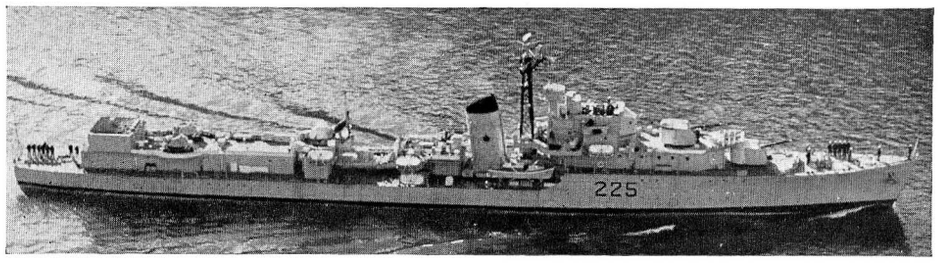
1960, *R.C.N., Official*

Notes
Lent to the R.C.N. in 1945. Permanently transferred from Great Britain on 16 Sep. 1951. Sister ship *Crescent* was converted into a fast anti-submarine frigate or destroyer escort similar to *Algonquin*, see next page. *Crusader* now carries experimental variable depth sonar handling gear on her stern, and is employed as a trials ship. Certain improvements are planned, but no general conversion will be undertaken.

1 " V " Class

SIOUX (ex-*Vixen*)

No.:	DDE 225
Builders:	J. Samuel White & Co. Ltd., Cowes
Laid down:	31 Oct. 1942
Launched:	14 Sep. 1943
Completed:	5 Mar. 1944
Displacement:	1,730 tons *standard* (2,530 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 13 feet
Guns:	2—4·7 inch, 6—40 mm. AA.
Tubes:	4—21 inch (quadrupled)
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts
Complement:	230



SIOUX

1959, *R.C.N., Official*

Notes
Transferred from Great Britain early in 1944. Destroyer partly converted to fast A/S escort. Now has funnel cap.

Sister ship *Algonquin* has been completely converted similar to the British anti-submarine frigates of the " R " class, but with gun on FX deck level forward of bridge, see page 71.

DESTROYER ESCORTS (DDE) Anti-Submarine Frigate Type



KOOTENAY — 1959, *Royal Canadian Navy, Official*

7+6 " Restigouche " Class

CHAUDIERRE ANNAPOLIS
COLUMBIA MACKENZIE
GATINEAU NIPIGON
KOOTENAY QU'APPELLE
RESTIGOUCHE SASKATCHEWAN
ST. CROIX YUKON
TERRA NOVA

Displacement:	2,366 tons *standard* (2,900 tons *full load*) officially revised figures
Dimensions:	366 (*o.a.*) × 42 × 13½ (*mean*) feet
Guns:	2—3 inch, 70 cal. AA. (twin) forward, 2—3 inch, 50 cal. AA. (twin) aft
A/S weapons:	2 triple-barrelled depth charge mortars (Limbos) in after well
Tubes:	Improved homing torpedoes
Machinery:	Geared turbines. 2 shafts. S.H.P.: 20,000=" in excess of 25 kts." (official figure)
Boilers:	2 water tube
Complement:	210 (12 officers, 198 men) peacetime

General Notes

These ships are basically similar to the destroyer escorts of the " St. Laurent " class, but there is a considerable difference in the bridge structure, which is higher at the break of forecastle and drops down to a new breakwater deck on which the new British 3 inch, 70 calibre twin gun, in enclosed turret is mounted, and over which it has better vision. There is also a difference in the shelter deck superstructure and fittings abaft the funnel, wing platforms on the foremast, director and look-out wings abaft the bridge, and improved sonar gear. The *Restigouche*, the first of the class bearing her name, cost $23,000,000. The *Mackenzie*, the first and name ship of the Repeat " Restigouche " class, was laid down on 15 Dec. 1958. It is officially stated that the first four ships of the " Repeat Restigouche " class will be identical with the " Restigouche " class, but the fifth and sixth ships will be fitted with VDS (experimental variable depth sonar handling gear) in a tower-like structure on the sterns, and helicopter platforms.

No.	*Name*	*Builders*
DDE 235	*Chaudierre*	Halifax Shipyards Ltd., Halifax
DDE 236	*Gatineau*	Davie Shipbuilding & Repairing
DDE 256	*St. Croix*	Marine Industries Ltd., Sorel, Q.
DDE 257	*Restigouche*	Canadian Vickers Ltd., Montreal
DDE 258	*Kootenay*	Burrard Dry Dock & Shipbuilding
DDE 259	*Terra Nova*	Victoria Machinery Depot Co.
DDE 260	*Columbia*	Burrard Dry Dock & Shipbuilding
DDE 261	*Mackenzie*	Canadian Vickers Ltd., Montreal
DDE 262	*Saskatchewan*	Victoria Machinery Depot Co.
DDE 263	*Yukon*	Burrard Dry Dock & Shipbuilding
DDE 264	*Qu'Appelle*	Davie Shipbuilding & Repairing
DDE 265	*Annapolis*	Halifax Shipyards Ltd., Halifax
DDE 266	*Nipigon*	Marine Industries Ltd., Sorel, Q.

Name	*Laid down*	*Launched*	*Completed*
Chaudierre	30 July 1953	12 Nov. 1957	14 Nov. 1959
Gatineau	30 Apr. 1953	3 June 1957	17 Feb. 1959
St. Croix	15 Oct. 1954	17 Nov. 1957	4 Oct. 1958
Restigouche	15 July 1953	22 Nov. 1954	7 June 1958
Kootenay	21 Aug. 1952	15 June 1954	7 Mar. 1959
Terra Nova	11 June 1953	21 June 1955	6 June 1959
Columbia	11 June 1953	1 Nov. 1957	7 Nov. 1959
Mackenzie	Oct. 1958		
Saskatchewan	July 1959		
Yukon	Oct. 1959		
Qu'Appelle	Jan. 1960		
Annapolis	Apr. 1960		
Nipigon	July 1960		

Building Notes

Because of the unit construction method used for the New DEs, it is almost impossible to give a true " laid down " date. Thus, a ship may be under construction for three or four months before anything appears on the ways. The " work commencement " schedule for ships of the " Repeat Restigouche " or " 261 " class is as shown in the table.

Appearance Notes

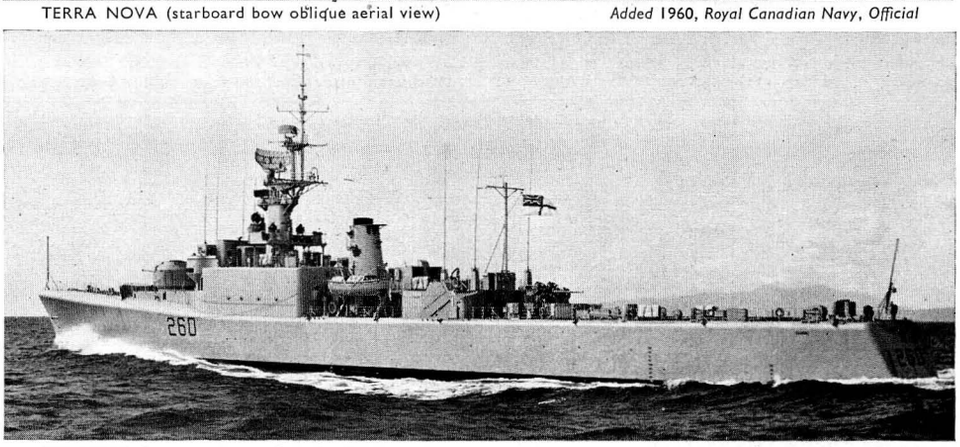
These ships can easily be distinguished from those of the " St. Laurent " class by the enclosed gunhouse forward, director before the foremast, different bridge and other variations summarised under *General Notes* above.

Photograph Notes

Starboard broadside view of *Restigouche* in the 1958-59 edition.



TERRA NOVA (starboard bow oblique aerial view) — *Added* 1960, *Royal Canadian Navy, Official*



COLUMBIA (port quarter surface view) — 1960, *Royal Canadian Navy, Official*

7 " St. Laurent " Class

ASSINIBOINE **SAGUENAY**
FRASER **ST. LAURENT**
MARGAREE **SKEENA**
OTTAWA

Displacement:	2,263 tons *standard* (2,800 tons *full load*) officially revised figures
Dimensions:	366 (*o.a.*) × 42 × 13½ feet
Guns:	4—3 inch, 50 cal. AA. in twin mountings; 2—40 mm. AA. Bofors (single)
A/S weapons:	2 triple-barrelled depth charge mortars (Limbos) in after well. Homing torpedoes
Machinery:	Geared turbines. 2 shafts. S.H.P.: 20,000=" in excess of 25 kts." (official figure)
Boilers:	2 water tube
Complement:	290 (20 officers, 270 men) wartime

General Notes

Officially classed as major warships and as such were the first to be designed completely in Canada. These anti-submarine escort vessels or frigates of a high-speed type were built primarily for the detection and destruction of modern fast submarines, and in evolving their design much assistance was received from the Royal Navy and the United States Navy. In function the vessels supersede the frigates and corvettes of the last war, and like the corvettes their design was worked out so that in the event of emergency they could be produced rapidly and in quantity. In speed, manoeuvrability and weapons the ships fulfil all the requirements of their class for modern sea warfare. The design provided for flush deck, low bridge, considerable use of aluminium instead of steel for the superstructure, fittings and furniture and compartmented hull. The ships have long range asdic to probe for submarines and improved armament and electronic equipment as submarine chasers. Design work started in 1949. The original completion date for 14 vessels was scheduled for 1955, but only the first seven were completed by 1957 with the remaining seven (of the "Restigouche" class, see preceding page) ready by 1958-60. Construction was delayed because the ships have been subjected to constant change due to international development in submarines and torpedoes. All were designated DDE instead of DE in 1954. The originally estimated cost was $15,000,000 each. Revised cost now officially stated to be $23,000,000 each.

Displacement Notes

Tonnage figures for the " St. Laurent " and " Restigouche " class destroyer escorts have been corrected on the basis of information from the Naval Constructor-in-Chief, as follows:

" St. Laurent ": 2,263 tons *standard*; 2,800 tons *full load*.
" Restigouche ": 2,366 tons *standard*; 2,900 tons *full load*.

Destroyer Escorts (DDE) Anti-Submarine Frigate Type—*continued*



MARGAREE

1958, *Royal Canadian Navy Official*

No.	*Name*	*Builders*
DDE 205	*St. Laurent*	Canadian Vickers, Ltd., Montreal
DDE 206	*Saguenay*	Halifax Shipyards, Ltd., Halifax
DDE 207	*Skeena*	Burrard Dry Dock & Shipbuilding
DDE 229	*Ottawa*	Canadian Vickers, Ltd., Montreal
DDE 230	*Margaree*	Halifax Shipyards, Ltd., Halifax
DDE 233	**Fraser*	Yarrows, Ltd., Esquimalt, B.C.
DDE 234	*Assiniboine*	Marine Industries, Ltd., Sorel, Q.

Name	*Laid down*	*Launched*	*Completed*
St. Laurent	22 Nov. 1950	30 Nov. 1951	29 Oct. 1955
Saguenay	4 Apr. 1951	30 July 1953	15 Dec. 1956
Skeena	1 June 1951	19 Aug. 1952	30 Mar. 1957
Ottawa	8 June 1951	29 Apr. 1953	10 Nov. 1956
Margaree	12 Sep. 1951	29 Mar. 1956	5 Oct. 1957
Fraser	11 Dec. 1951	19 Feb. 1953	28 June 1957
Assiniboine	19 May 1952	12 Feb. 1954	16 Aug. 1956

Building Notes

* *Fraser* was launched by Burrard Dry Dock Co. Ltd., but completed by Yarrows Ltd.

Engineering Notes

Propelling machinery is of British design. Yarrow & Co. Ltd., Scotstoun, Glasgow, received an order from Canadian Vickers for the supply of a complete set of machinery for the *St. Laurent*, the other ships being supplied with similar machinery manufactured in Canada. The main turbines and condensers are of English Electric design.

Photograph Notes

Starboard quarter view of *St Laurent* and broadside view of *Ottowa* as first completed in 1957-58 edition. Starboard quarter oblique aerial view of *Ottowa*, showing helicopter platform laid on aft, in the 1958-59 and 1959-60 editions. Port bow oblique aerial view of *Saguenay* in the 1957-58 to 1959-60 editions.

Helicopter Notes

A prefabricated helicopter platform (first installed in H.M.S. *Buckingham*, see next page) was fitted over the after well in *Ottowa* in Aug. 1957 to test the feasibility of operating helicopters from anti-submarine vessels of this class; but this experimental flight apron was subsequently removed.

Appearance Notes

These ships are now wearing the very light grey, almost white, paint which is coming into general use in H.M. Canadian Ships.

Acknowledgment Notes

All the above details and photographs were officially furnished by courtesy of the Canadian Department of Nation Defence in Ottawa.

ANTI-SUBMARINE FRIGATES (DDE) Converted Destroyers

CRESCENT

No.:	DDE 226
Builders:	John Brown & Co. Ltd., Clydebank.
Laid down:	16 Sep. 1943
Launched:	20 July 1944
Completed:	21 Sep. 1945
Displacement:	2,100 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 13⅛ (*aft full load*) feet
Guns:	2—4 inch forward, 2—3 inch aft, 2—40 mm. Bofors AA.
A/S weapons:	2 Limbo three-barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	250



CRESCENT

1959, *R.C.N., Official*

General Notes

Crescent was originally a destroyer of the "C" class lent to the Royal Canadian Navy in 1945 and permanently transferred from Great Britain in 1951; she was fully converted into a fast anti-submarine frigate or destroyer escort by Esquimalt Dockyard in 1956. She was extensively refitted in 1958.

Anti-Submarine Notes

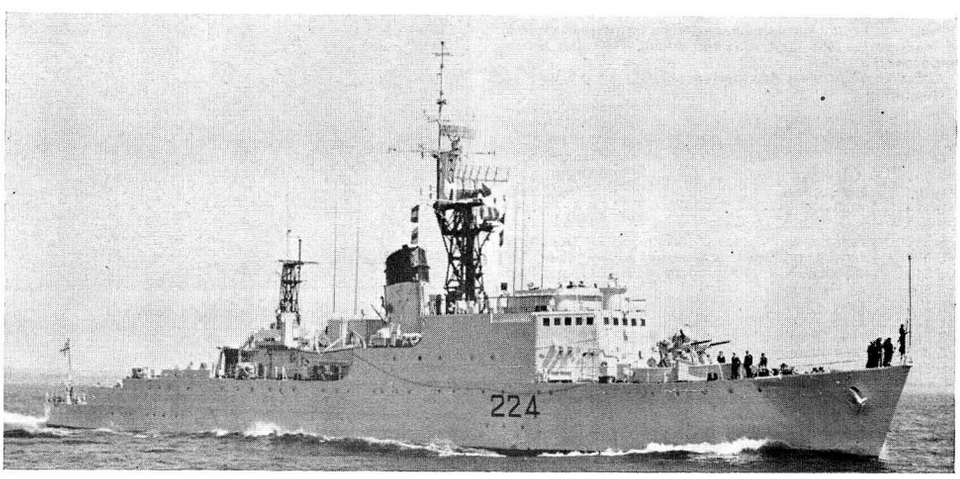
It is authoritatively stated that the Limbo weapon has a range of 1,500 yards and a depth over 600 feet, and that one bomb can sink a submarine.

Appearance Notes

Crescent is generally similar to *Algonquin* except that the main armament is mounted *vice versa*, i.e. 4 inch guns are mounted forward and 3 inch guns in aft position.

ALGONQUIN (ex-*Valentine*, ex-*Kempenfelt*)

No.:	DDE 224
Builders:	John Brown & Co. Ltd., Clydebank.
Laid down:	8 Oct. 1942
Launched:	2 Sep. 1943
Completed:	28 Feb. 1944
Displacement:	2,100 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅔ × 13⅛ (*aft full load*) feet
Guns:	2—4 inch aft, 2—3 inch forward, 2—40 mm. Bofors AA.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	230



ALGONQUIN

1960, *Royal Canadian Navy, Official*

General Notes

Algonquin was originally a destroyer of the "V" class transferred from Great Britain in 1944; she was fully converted into a fast anti-submarine frigate or destroyer escort by Esquimalt Dockyard in 1954.

Classification Notes

Algonquin and *Crescent* were officially designated "Destroyer Escorts—Algonquin Class (DDE)" in 1956.

Appearance Notes

Algonquin, as compared with *Crescent*, has no raked funnel cap, and she has her 4 inch guns aft and 3 inch guns forward, instead of *vice versa* as in *Cresent* (see above). She now has a shield to her 3 inch guns.

ANTI-SUBMARINE FRIGATES (FFE)

18 Modernised " River " Type Designated Frigate Escorts

ANTIGONISH
BEACON HILL
BUCKINGHAM (ex-*Royal Mount*)
CAP DE LA MADELINE
FORT ERIE (ex-*La Tuque*)
INCH ARRAN
JONQUIERE
LA HULLOISE
LANARK
LAUZON (ex-*Glace Bay*)
NEW GLASGOW
NEW WATERFORD
OUTREMONT
ST. THERESE
STETTLER
SUSSEXVALE (ex-*Valdorian*)
SWANSEA
VICTORIAVILLE

Displacement:	1,570 tons *standard* (2,360 tons *full load*) officially revised figures
Dimensions:	301½ (*o.a.*) × 36½ × 16 (*aft full load*) feet
Guns:	2—4 inch, 6—40 mm. AA.
A/S weapons:	2 Squid triple-barrelled depth charge mortars
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. Sea speed 19 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	720 tons
Radius:	9,600 miles at 12 kts.
Complement:	140

General Notes

Originally of similar design to British " River " class. All built in Canadian shipyards. All of this class, including three vessels transferred to Norway were modernised and reconstructed to flush deckers (completed anti-submarine conversion 1953-58.) *La Hulloise* commissioned after conversion on 9 Oct. 1957, *Swansea* 14 Nov. 1957, *Beacon Hill* 21 Dec. 1957 and *New Waterford* 31 Jan. 1958). All redesignated FFE (instead of PF) in 1953.

Reconstruction Notes

In the original form the forecastle deck extended about two-thirds of the length with low freeboard aft, but it has now been extended right aft, the extension being wall-sided. The extra space is devoted to improved habitability and to the equipment for detecting and fighting submarines, including some of the generating machinery which was changed from three steam and one diesel to two steam and two diesel, of greatly increased capacity. The former comparatively small bridge structure has been replaced by a much larger one, almost totally enclosed, demanding a taller funnel to clear it. The new gear has also necessitated a much bigger mast although still a tripod. The propelling machinery has been thoroughly overhauled and some improvement effected. The hull forward has been strengthened against ice, and all the accommodation improved. This reconstruction to tackle modern submarines is a striking example of what can be done to modernise " River " class frigates.

Helicopter Notes

Buckingham, recently employed as a recruit training ship, was in 1957 equipped with a prefabricated helicopter platform, fitted above the quarter deck, for A.S.W. reconnaissance and to test the feasibility of operating helicopters from anti-submarine escort vessels of this size. The deck was subsequently removed and installed in the new destroyer escort *Ottawa*, see previous page.

Photograph Notes

Photographs of *Stettler* and *Sussexvale* before the addition of the midship deckhouse appear in the 1956-57 and 1957-58 editions. A photograph of *Beacon Hill* before alteration appears in the 1958-59 and 1959-60 editions.

Transfer Notes

Penetang, *Prestonian* and *Toronto* were transferred on loan to Norway in 1956, and renamed *Draug*, *Troll* and *Garm*, respectively.

All three ships were transferred outright to Norway on 27 June 1958

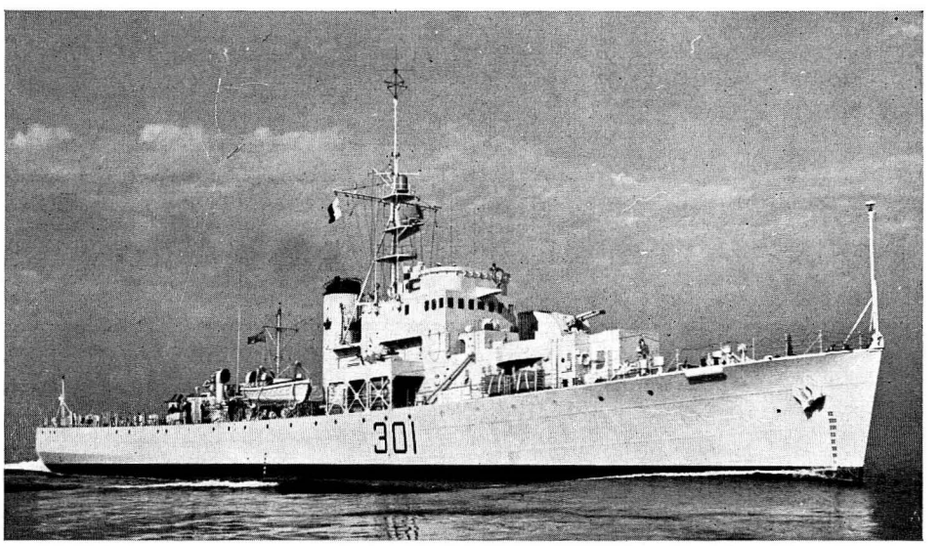
No.	*Name*	*Launched*
FFE 301	*Antigonish*	10 Feb. 1944
FFE 303	*Beacon Hill*	6 Nov. 1943
FFE 314	*Buckingham*	28 Apr. 1944
FFE 317	*Cap de la Madeleine*	13 May 1944
FFE 312	*Fort Erie*	27 May 1944
FFE 308	*Inch Arran*	6 June 1944
FFE 318	*Jonquiere*	28 Oct. 1943
FFE 305	*La Hulloise*	29 Oct. 1943
FFE 321	*Lanark*	10 Dec 1943
FFE 322	*Lauzon*	10 June 1944
FFE 315	*New Glasgow*	5 Mar. 1943
FFE 304	*New Waterford*	3 July 1943
FFE 310	*Outremont*	3 July 1943
FFE 309	*St. Therese*	16 Oct. 1943
FFE 311	*Stettler*	10 Sep. 1943
FFE 313	*Sussexvale*	12 July 1944
FFE 306	*Swansea*	19 Dec. 1942
FFE 320	*Victoriaville*	23 June 1944

Weather Ship Notes

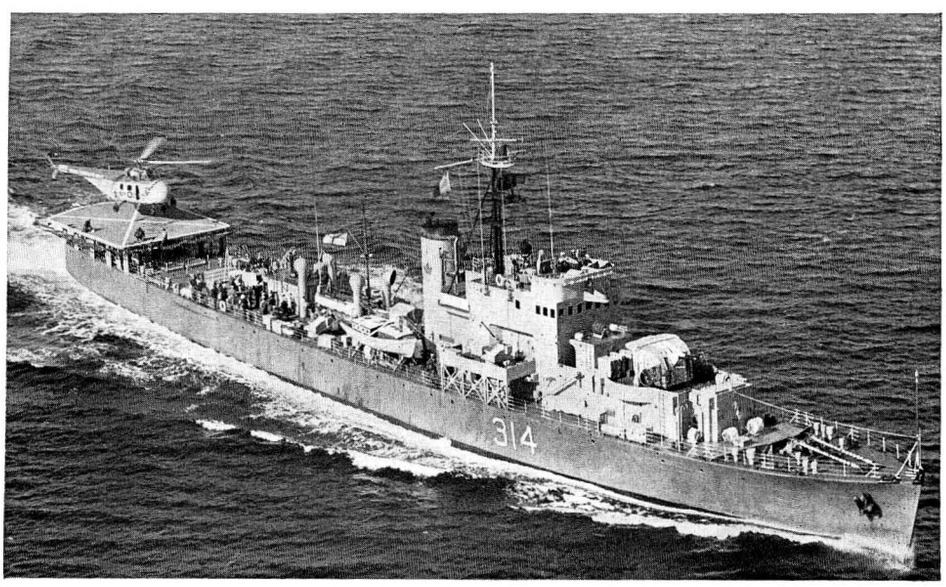
All three of the Canadian " River " Type Frigates (FFE) serving as Weather Ships, the *St. Catherines*, *St. Stephen* and *Stonetown*, formerly on loan to the Department of Transport, have been transferred outright to the Department of Transport. See photograph and full particulars in the 1958-59 edition.



SUSSEXVALE (deckhouse abaft mainmast) 1960, *Royal Canadian Navy, Official*



ANTIGONISH (before addition of midship deckhouse) 1958, *Royal Canadian Navy, Official*



BUCKINGHAM (helicopter flight deck aft) 1957, *Royal Canadian Navy, Official*

Training Notes

Five of the seven frigates of the Fourth Canadian Escort Squadron have been fitted with a midship deck house to provide classrooms and messing facilities for officer cadets under sea training. The ships thus fitted are *Antigonish*, *Beacon Hill*, *St. Therese*, *Stettler* and *Sussexvale*. Two other ships of the squadron, *Jonquiere* and *New Glasgow*, are without this feature; but will be converted for officer cadet training purposes, similarly to other ships of the squadron. The anti-submarine capabilities of the ships have not been affected.

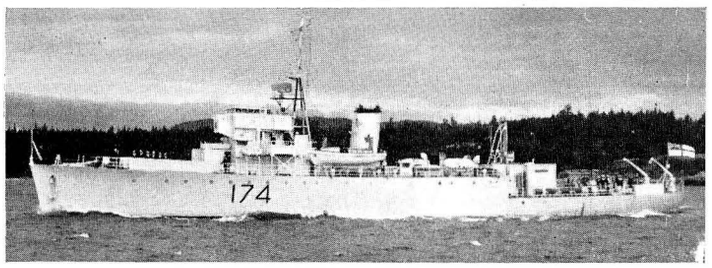
Proposed Degaussing Vessel Notes

It is officially stated that plans for converting *Brockville* (YMD 178) and *Digby* (YMD 179), built as fleet minesweepers of the Canadian Diesel " Bangor " class, but subsequently redesignated coastal escorts, into de-perming vessels have been abandoned. These ships no longer meet the requirements of the Fleet and, while this has not been announced officially, they will almost certainly be declared surplus within the next few months. Their proposed refits have been cancelled. (Full particulars of these ships, and a photograph of *Digby*, appear in the 1959-60 edition.)

Submarine Notes

Submarines serving with the Sixth Submarine Squadron of the Royal Navy at Halifax for anti-submarine training of ships of the Royal Canadian Navy and Canadian Maritime Air Forces are manned, in part, by R.C.N. personnel. The Associate Minister of National Defence announced in January, 1960, that the possibility of obtaining a submarine on loan from the United States Navy for anti-submarine training in the Pacific Command was being investigated.

SURVEY SHIPS (AGH), ex-Coastal Escorts



OSHAWA — 1959, *Royal Canadian Navy, Official*

3 Former "Algerine" Class Ocean Minesweepers

FORT FRANCES **NEW LISKEARD** **OSHAWA**

Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 (*pp.*), 255 (*o.a.*) × 35 7/12 × 11 (*max.*) feet
Guns:	4 or 8—20 mm. AA. (2 or 4 twin mounts)
A/S weapons:	4 D.C. Throwers
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts.
Boilers:	2, of 3-drum type
Complement:	85

General Notes

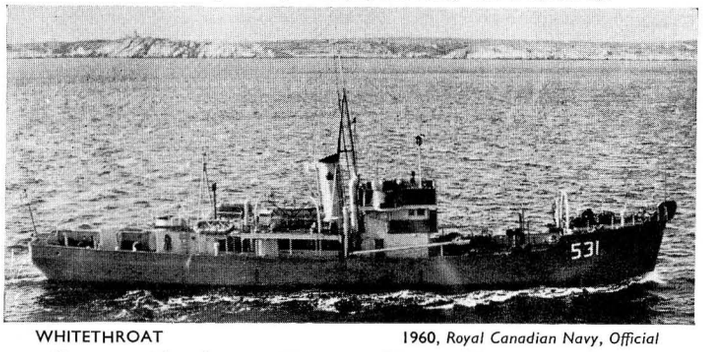
Of the same type as British "Algerine" class ocean (escort) minesweepers. All built by Port Arthur Shipbuilding Co., Port Arthur, Ontario. *Fort Frances*, AGH 170, was launched on 30 Oct. 1943, *New Liskeard*, AGH 168, on 14 Jan. 1944, and *Oshawa*, AGH 174, on 10 June, 1943. *New Liskeard*, formerly employed as sea-going training ship, was subsequently used for Bathythermeographic duties at Halifax. *Kapuskasing* was temporarily lent to Dept. of Mines and Technical Surveys. *Oshawa* is now an Oceanic Research Ship on the West coast. *Fort Frances*, *New Liskeard* (used for variable depth sonar experimental trials) and *Oshawa* were refitted as surveying vessels and redesignated AGH in 1959.

Reclassification Notes

These ships were formerly rated as Ocean Minesweepers (AM), but they were all redesignated Coastal Escorts (FSE) in 1953.

Recent Disposals

Portage, *Rockcliffe* and *Sault Ste. Marie* were discarded in 1959. *Wallaceburg* and *Winnipeg* were transferred to the Belgian Navy on 31 July and 7 Aug 1959, respectively.



WHITETHROAT — 1960, *Royal Canadian Navy, Official*

Former Minelaying Trawler (Controlled Minelayer)

WHITETHROAT

Displacement:	580 tons *standard* (790 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27½ × 12½ feet
Guns:	1—4 inch AA., etc.
Machinery:	Triple expansion. I.H.P.: 850=12·5 kts.
Boiler:	1 cylindrical

General Notes

Pennant No.: AGH 113. Built by Cook, Welton & Gemmel Ltd., Beverley, East Yorks. Laid down on 15 May 1944. Launched on 11 Aug. 1944. Completed on 12 Dec. 1944. Engined by C. D. Holmes. Built in England as a Minelaying Trawler and later classified as a Controlled Minelayer, but under NATO she was listed as a Harbour Mineplanter.

Minor changes were made, it was officially stated in 1958, so that the ship could be employed on research operations in addition to her normal role. She was redesignated as a Survey Ship (AGH) in 1959.

DIVING DEPOT SHIP (YMT), ex-Coastal Escort



GRANBY — *Added* 1959, *Royal Canadian Navy, Official*

Former "Bangor" Class Fleet Minesweeper

GRANBY

Displacement:	590 tons *standard* (790 tons *full load*)
Dimensions:	162 × 28 × 8½ feet
Guns:	1—40 mm., 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,000=16 kts.
Complement:	60

General Notes

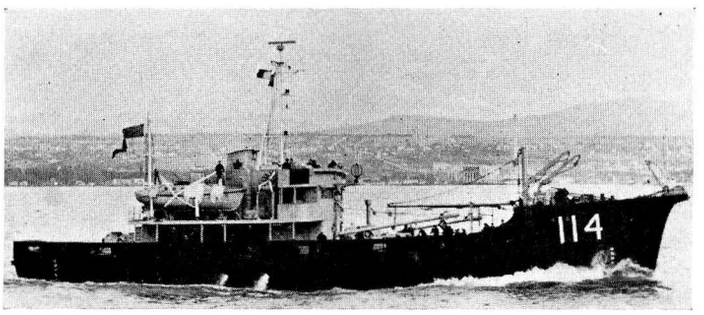
Pennant No. YMT 180. Launched on 9 June 1941. Former Fleet Minesweeper (AM) of the Diesel "Bangor" class, redesignated Coastal Escort (FSE) in 1953, and Clearance Diving Depot Ship (YMT) in 1959, after having been employed as a Submarine Rescue Vessel.

Recent Disposals

Ten coastal escorts (FSE), formerly fleet minesweepers (AM) of the Canadian steam "Bangor" class, the *Blairmore*, *Fort William*, *Kenora*, *Kentville*, *Medicine Hat*, *Mahone*, *Nipigon*, *Sarnia*, *Swift Current* and *Westmount*, were transferred to the Turkish Navy in 1957-58 under the Mutual Aid Programme of NATO. First five (*Fort William*, *Kenora*, *Kentville*, *Medicine Hat* and *Nipigon*) were turned over to Turkey at Sydney, Canada, on 29 Nov. 1957. *Blairmore*, *Mahone*, *Sarnia*, *Swift Current* and *Westmount* were transferred in Spring 1958.

The eight remaining ships of this class, the *Drummondville*, *Gananoque*, *Goderich*, *Malpeque*, *Milltown*, *Minas*, *Port Hope* and *Red Deer* were discarded in 1959.

CABLE LAYERS (ALC)



BLUETHROAT — *Royal Canadian Navy, Official*

Former Mine and Loop Layer (Controlled Minelayer)

BLUETHROAT

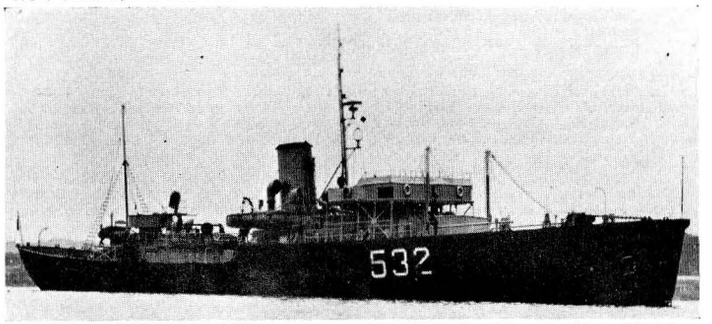
Displacement:	785 tons *standard* (870 tons *full load*)
Dimensions:	150⅔ (*pp.*), 157 (*o.a.*) × 33 × 10 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,200=13 kts.

General Notes

Authorised under the 1951 Programme. Built by Geo. T. Davie & Sons Ltd., Lauzon P.Q. Laid down on 31 Oct. 1952 Launched on 15 Sep. 1955. Completed on 28 Nov. 1955.

Reclassification Notes

Built as a Mine and Loop Layer, but according to her subsequent grouping under NATO standardised nomenclature she was listed as a Harbour Mineplanter. In 1957 she was rated as a Controlled Minelayer, No. NPC 114. She was redesignated as a Cable Layer (ALC) in 1959. Pennant No. ALC 114.



SACKVILLE (No. now 113) — *Added* 1960, *Royal Canadian Navy, Official*

1 Former "Flower" Class Corvette

SACKVILLE

Displacement:	1,085 tons *standard* (1,350 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 S.E.

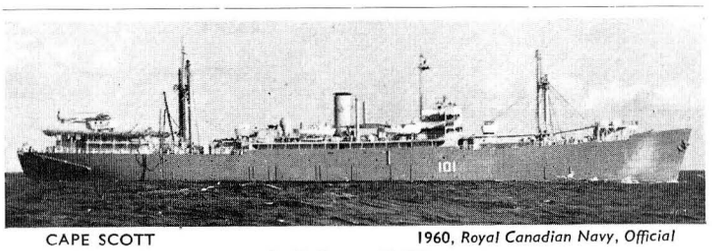
General Notes

Pennant No. ALC 113. Built by St. John Dry Dock Co., St. John, N.B. Launched on 15 May 1941. Completed on 30 Dec. 1941. Ex-"Flower" class frigate (corvette) converted to loop layer. Employed by Naval Research Laboratories for oceanographic work.

Reclassification Notes

Formerly designated No. AN 113, but now known as ALC, having been listed as a cable layer under NATO nomenclature.

ESCORT MAINTENANCE SHIPS (ARE)



CAPE SCOTT — 1960, *Royal Canadian Navy, Official*

2 "Cape" Class

CAPE BRETON (ex-*Flamborough Head*)
CAPE SCOTT (ex-*Beachy Head*, ex-*Vulkaan*, ex-*Beachy Head*)

	Cape Breton	*Cape Scott*
Name:		
Pennant No.:	ARE 100	ARE 101
Builders:	Burrard Dry Dock Co., Vancouver, B.C.	Burrard Dry Dock Co., Vancouver, B.C.
Laid down:	5 July 1944	8 June 1944
Launched:	7 Oct. 1944	27 Sep. 1944
Completed:	25 Apr. 1945	20 Mar. 1945
Accepted:	2 May 1945	27 Mar. 1945

Displacement:	8,580 tons *standard* (11,270 tons *full load*)
Dimensions:	441½ × 57 1/12 × 20⅔ (*mean at standard displacement*) feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 2,500=11 kts.
Boilers:	2 Foster Wheeler

General Notes

Cape Breton formerly served in the Royal Navy as the escort maintenance ship *Flamborough Head*; but she returned from the United Kingdom in 1951 and was in turn acquired by the Royal Canadian Navy and renamed *Cape Breton* in 1953, serving as a training establishment for technical apprentices at Halifax until 1958 when she sailed for Esquimalt for conversion to her present function. On 16 Nov. 1959 she commissioned on the West Coast as the second mobile repair ship.

Cape Scott served in the Royal Navy as the *Beachy Head* until 1947, when she was lent to Royal Netherlands Navy and renamed *Vulkaan*; but she returned to the Royal Navy in 1950, and was acquired by the Royal Canadian Navy in 1952, being renamed *Cape Scott* in 1953. On 28 Jan. 1959 *Cape Scott* was commissioned at Halifax as the Royal Canadian Navy's first mobile repair ship.

Both ships are equipped with a helicopter landing platform, a decompression chamber for the ship's divers, engineering, electrical and electronic repair shops, diesel engine repair shop, battery shop, sheet metal shop, welding shop, pipe and coppersmith's shop, plate shop and blacksmith's shop.

Provision is made on board the maintenance vessels *Cape Scott* and *Cape Breton* for medical and dental care. Each ship contains an eight-berth hospital, large sick bay, operating theatre, X-ray room, small medical laboratory, dental clinic and dental laboratory.

COASTAL MINESWEEPERS (MCB)



MIRAMICHI 1958, *Royal Canadian Navy, Official*

10 " Bay " Class

CHALEUR, CHIGNECTO, COWICHAN, FORTUNE, FUNDY, JAMES BAY, MIRAMICHI, QUINTE, RESOLUTE, THUNDER

Displacement:	390 tons *standard* (412 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 7¾ (*aft*) feet
Guns:	1—40 mm.
Machinery:	2 General Motors V-12 Diesels. 2 shafts. B.H.P.: 2,400=16 kts.
Oil fuel:	52 tons
Radius:	4,500 miles at 11 kts.
Complement:	3 officers, 35 ratings

General Notes

Extensively built of aluminium, including frames and decks. Four of the original 14 vessels of this class were ordered under the 1950 Programme and ten under the 1951 Programme. Named after Canadian straits and bays. Other names considered were *Belle Isle*, *Conso* and *Chantry*. Designation changed from AMC to MCB in 1954.

Class Notes

Chaleur (144), *Chignecto* (156), *Cowichan* (147), *Fundy* (145), *Miramichi* (150), and *Thunder* (153), of the class were transferred to the French Navy in 1954. Six others of this class with the same names have been built for the Royal Canadian Navy to take the place of those transferred.

Recent Disposals

Comox (146) *Gaspe* (143) *Trinity* (157) and *Ungava* (148) were transferred to the Turkish Navy under Mutual Aid arrangements in 1958.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
164	*Chaleur*	Marine Industries	20 Feb. 1956		12 Sep. 1957
160	*Chignecto*	Geo. T. Davie	25 Oct. 1955	17 Nov. 1956	1 Aug. 1957
162	*Cowichan*	Yarrows	10 July 1956	26 Feb. 1957	19 Dec. 1957
151	*Fortune*	Victoria Machinery	24 Apr. 1952	14 Apr. 1953	1 Nov. 1954
159	*Fundy*	Davie Shipbuilding	7 Mar. 1955	14 June 1956	27 Nov. 1956
152	*James Bay*	Yarrows	16 Aug. 1951	12 Mar. 1953	28 Apr. 1954
163	*Miramichi*	Victoria Machinery	2 Feb. 1956	22 Feb. 1957	28 Oct. 1957
149	*Quinte*	Port Arthur	2 May 1952	8 Aug. 1953	15 Oct. 1954
154	*Resolute*	Kingston Shipyard	29 Aug. 1951	20 June 1953	16 Sep. 1954
161	*Thunder*	Port Arthur	1 Sep 1955	27 Oct. 1956	3 Oct 1957

COASTAL MINESWEEPERS SUPPORT SHIP



CORDOVA 1959, *Royal Canadian Navy, Official*

1 Ex-U.S. YMS Type

MCB 158 CORDOVA (ex-*YMS* 420)

Displacement:	325 tons *full load*
Dimensions:	136 × 24½ × 8 feet
Machinery:	Diesel. B.H.P.: 1,000=15 kts.
Complement:	30

Notes

Ex-U.S. Auxiliary Motor Minesweeper. Built by Henry C. Grebe & Co., Chicago, Ill. in 1943. Purchased and taken over by the Royal Canadian Navy on 3 Dec. 1951. Formerly employed as tender to Vancouver Naval Reserve Division. Redesignated MCB instead of YMS in 1954 and again redesignated MCA in 1957. Placed in reserve 18 Oct. 1956. Rerated as a Coastal Minesweeper Class Support Ship (MCB) in 1959.

Recent Disposals

The auxiliary coastal minesweepers *Llewellyn* and *Revestoke* of the MMS type were stricken from the Navy List in 1958. *Llewellyn* was refitted at Dartford Shipyards as a coastal freighter in 1959.

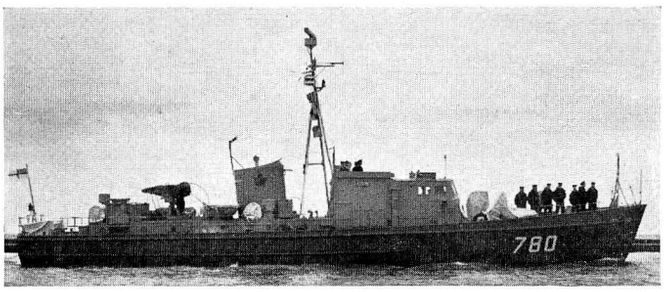
The surveying vessel *Cedarwood* was stricken from the Navy List in 1958. (She was converted into a paddle steamer for the centennial celebrations.) The survey vessels *Ehkoli* and *Lahave* were discarded in 1959.

DIVING TENDERS (YMT)

YMT 1, YMT 2, YMT 3, YMT 5, YMT 6, YMT 7, YMT 8, YMT 9, YMT 10

Displacement:	70 tons
Dimensions:	75 × 18½ × 8½ feet
Machinery:	2 diesels. B.H.P.: 165

PATROL CRAFT (PCS)



LOON 1956, *R.C.N., Official*

3 " Bird " Class Small Submarine Chasers

PCS 781 CORMORANT, PCS 780 LOON, PCS 783 MALLARD

Displacement:	66 tons *full load*
Dimensions:	92 × 17 × 5⅓ feet
Guns:	1—20 mm. Oerlikon AA.
A/S weapons:	Hedgehog and depth charges
Machinery:	2 diesels. B.H.P.: 1,200=14 kts.
Complement:	21

Notes

Loon, first of class, commissioned 14 Dec. 1955. Designed for harbour patrol work and training duties. Primarily of wood and aluminium construction. Fitted with sonar and anti-submarine apparatus and carry modern navigational equipment. Officially rated as Patrol Craft Submarine Chasers Small. The fourth boat of this class, *Blue Heron*, was transferred on loan to the Marine Section of the Royal Canadian Mounted Police in 1956. Four other vessels of this class, to have been named *Arctic Tern*, *Herring Gull*, *Kingfisher* and *Sandpiper*, were cancelled in 1956.

Recent Disposals

The six patrol craft of the Fairmile " B " type, the *Beaver*, *Congar*, *Mcose*, *Raccoon*, *Reindeer* and *Wolf*, and the six high speed patrol launches of the Sea Rescue type, PRE 208, PRE 231, PRE 232, PRE 233, PRE 234 and PRE 235, were striken from the Navy List in 1958.

GATE VESSELS (YMG)



PORTE ST. JEAN 1952, *R.C.N., Official*

5 " Porte " Class

PORTE DAUPHINE, PORTE DE LA REINE, PORTE QUEBEC, PORTE SAINT-JEAN, PORTE SAINT-LOUIS

Displacement:	429 tons *full load*
Dimensions:	125½ × 26½ × 13 feet
Guns:	1—40 mm. AA.
Machinery:	Diesel. A/C Electric. 1 shaft. B.H.P.: 600=11 kts.
Complement:	3 officers, 20 ratings

Notes

Of trawler design. Multi-purpose vessels used for operating the gates in the A/S booms, fleet auxiliaries, anti-submarine netlayers for entrances to defended harbours. Capable of being fitted for minesweeping. Designation changed from YNG to YMG in 1954. *Porte Dauphine* is on loan to the Department of Mines and Technical Surveys for Great Lakes survey work.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
186	*Porte Dauphine*	Pictou Foundry	16 May 1951	24 Apr. 1952	10 Dec. 1952
184	*Porte de la Reine*	Victoria Machinery	4 Mar. 1951	28 Dec. 1951	19 Sep. 1952
185	*Porte Quebec*	Burrard Dry Dock	15 Feb. 1951	28 Aug. 1951	7 Oct. 1952
180	*Porte St. Jean*	Geo. T. Davie	16 May 1950	21 Nov. 1950	4 June 1952
183	*Porte St. Louis*	Geo. T. Davie	21 Mar. 1951	22 July 1952	28 Aug. 1952

FLEET REPLENISHMENT SHIP

Helicopter Carrier and Supply Ship

Measurement:	20,000 tons
Aircraft:	6 Sikorsky helicopters

General Notes

It was announced in the Canadian House of Commons on 15 Apr. 1958 that the construction of a 20,000 ton tanker supply ship for the Royal Canadian Navy had been authorised. The tenders have been called for this new fleet replenishment ship, but the contract has not been let. The ship is as yet unnamed. A photograph of the official model appears in the 1959-60 edition.

Official Statement

A general conception of the new 20,000-ton tanker supply ship, to be built for the Royal Canadian Navy, can be obtained from this photograph of the model of the ship. The clean, streamlined appearance of the hull follows a design to achieve high speed while fulfilling replenishment assignments with the fleet on operations. The forward bridge structure contains the commanding officer's and officers' accommodation as well as a modern eight-berth hospital. In the superstructure also are the wheelhouse, chartroom and three positions from which there is complete control of the ship—the command control position and the two bridge wing positions. The helicopter flight deck is aft with the hangar located on this deck and immediately below the funnel. At least six Sikorsky helicopters of the type at present in service in the Royal Canadian Navy will be accommodated in the hangar space.

The flight deck will be capable of receiving the largest and heaviest types of helicopter. Immediately below the flight deck are two accommodation decks for the ship's company, including the main galley and combined mess-recreation spaces for chief and petty officers and men. An unusual feature about the tanker supply ship will be the number of winches on deck, a total of 23 of the electro-hydraulic type. These will be used for ship-to-ship movement of cargo and supplies, as well as shore-to-ship requirements when alongside.

Arctic Patrol Vessel Notes

The Arctic patrol vessel *Labrador* was transferred, on loan, subject to recall for military purposes, to the Department of Transport in Feb. 1958 (see photograph and full particulars in the 1958-59 and earlier editions).

SUPPLY VESSELS (AKS)

2 " Ore " Class

EASTORE AKS 515 — **LAYMORE AKS 516**

Measurement: 560 tons *gross*, 262 tons *net*
Dimensions: 176½ × 32 × 8 feet
Machinery: General Motors diesel. B.H.P.: 1,000 = 10·8 kts.

Notes
Small supply vessels for coastal services. Classed as fleet auxiliaries. A photograph of *Eastore* appears in the 1952-53 to 1959-60 editions.

SCATARI (ex-*Malahat*)
Measurement: 233 tons
Dimensions: 97 × 20 × 9 feet
Machinery: Diesel. 1 shaft. B.H.P.: 400

Notes
Ex-R.C.A.F. supply ship. AKS 514.

LANGARA AKS 513

OILERS (AO)

2 " Dun " Class

DUNDALK — **DUNDURN**

Displacement: 950 tons
Dimensions: 178⅜ × 32½ × 13 feet
Machinery: Diesel. B.H.P.: 700 = 10 kts.

Notes
Small vessels designated tankers, and classed as fleet auxiliaries. A photograph of *Dundalk* appears in the 1949-50 to 1959-60 editions.

OCEAN TUGS (ATA)

3 " Saint " Class

SAINT ANTHONY — **SAINT CHARLES** — **SAINT JOHN**

Displacement: 840 tons *full load*
Dimensions: 151½ × 33 × 17 feet
Guns: 2—40 mm. Bofors AA.
Machinery: Diesel. 1 shaft. B.H.P.: 1,920 = 14 kts.

Notes
Ocean tugs of a new design. Authorised under the 1951 Programme. All built by the St. John Dry Dock Co. A photograph of *Saint John* appears in the 1957-58, 1958-59 and 1959-60 editions.

No.	*Name*	*Laid down*	*Launched*	*Completed*
ATA 531	*Saint Anthony*	15 July 1954	2 Nov. 1955	22 Feb. 1957
ATA 533	*Saint Charles*	28 Apr. 1954	10 July 1956	7 June 1957
ATA 535	*Saint John*	1 Dec. 1953	14 May 1956	23 Nov. 1956

3 " Ton " Class

CLIFTON — **HEATHERTON** — **RIVERTON**

Displacement: 462 tons
Dimensions: 104 (*pp.*), 111¾ (*o.a.*) × 28 × 11 feet
Machinery: Dominion Sulzer diesel. B.H.P.: 1,000 = 11 kts.
Complement: 17

Notes
Ocean tugs. *Clifton* was launched on 31 July 1944. Hull numbers are ATA 529, ATA 527 and ATA 528, respectively. A photograph of *Heatherton* appears in the 1952-53 to 1959-60 editions.

TUGS

7 " Glen " Class

GLENBROOK — **GLENDON** — **GLENEVIS**
GLENDEVON — **GLENDYNE** — **GLENLIVIT II**
GLENSIDE

Dimensions: 80 × 20⅞ × 7¼ (*aft full load*) feet
Machinery: Diesel. B.H.P.: 300 = 9 kts.

Notes
Big harbour tugs. *Glenlivit II* is loaned to Halifax Department of Public Works. Hull numbers are YTB 501, 505, 506, 503, 502, 504 and 500, respectively.

4 " Wood " Class

EASTWOOD — **LAKEWOOD**
GREENWOOD — **OAKWOOD**

Dimensions: 60 (*o.a.*) × 15⅝ × 5 (*aft full load*) feet
Machinery: H.P.: 250 = 10 kts.

Notes
Medium harbour tugs. Used as A/S Target Towing Vessels. Launched, 1944. *Oakwood* loaned to Esquimalt Department of Transport. Hull numbers are YTM 550, 551, 552 and 554, respectively. *Wildwood* was stricken from the Navy List in 1959.

Other medium harbour tugs are:
FT1 **FT2** **FT3**
Employed as fire tugs, Hull numbers YTM 556, 557 and 558, respectively.

15 " Ville " Class

ADAMSVILLE — **LISTERVILLE** — **OTTERVILLE**
BEAMSVILLE — **LOGANVILLE** — **PARKSVILLE**
COLVILLE — **MANNVILLE** — **PLAINSVILLE**
ECKVILLE — **MARYSVILLE** — **QUEENSVILLE**
LAURENCEVILLE — **MERRICKVILLE** — **YOUVILLE**

Dimensions: 40 × 10½ × 4¾ feet
Machinery: Diesel. 1 shaft. B.H.P.: 150

Notes
Small harbour tugs. Majority employed on towing duties at Esquimalt and Halifax. Hull numbers are YTS 582, 583, 576, 580, 584, 578, 589, 577, 585, 581, 590, 579, 587 586 and 588 respectively. Other small harbour tugs are:

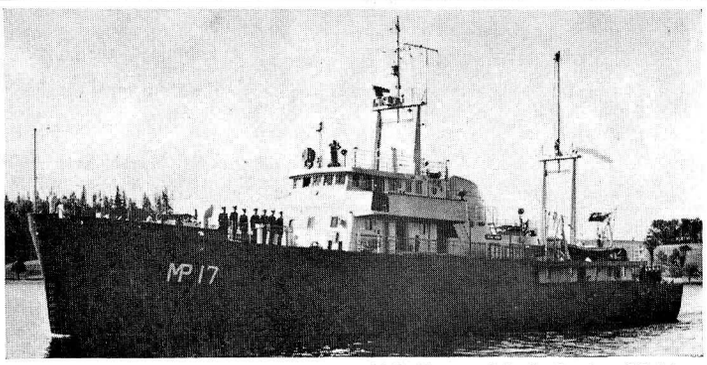
SHOVELLER — **VALIANT**
Nos. YTS 591 and 575.

TRAINING YACHT

ORIOLE (ex-*Oriole IV*)
Displacement: 68 tons
Dimensions: 77 (*w.l.*) × 19 × 10½ feet
Machinery: Cummins diesel. B.H.P.: 160
Complement: 24 (*max.*)

Notes
On the list of ships is H.M.C.S. *Oriole*, training yacht attached to H.M.C.S. *Venture*, officers' training establishment at Esquimalt, B.C. She is a Bermuda-rigged ketch, with a sail area of 7,000 square feet. Pennant No. QW 3. Built by Neponset, Mass., U.S.A., in 1921.

R.C.M.P. MARINE SECTION



WOOD — 1960, *Director of Marine Services, Official*

3 " Commissioner " Class

WOOD
Dimensions: 178 (*o.a.*) × 29 × 9 feet
Machinery: 2 Fairbanks-Morse diesels. B.H.P.: 2,660 = 16 kts.

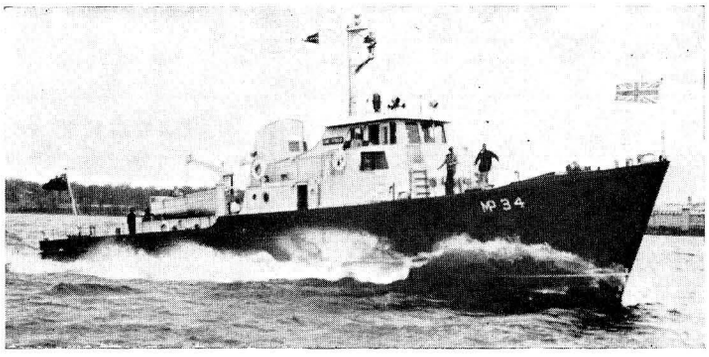
Notes
Built by Geo. T. Davie and Sons Ltd., Lauzon, Levis, Quebec. Completed in July 1958. Used for patrol duties on the east coast of Canada, this ship is built of steel with aluminium superstructure and steel strengthened for ice patrol.

(*Ex-Fleet Minesweepers*)

FRENCH (ex-*Transcona*) 26 Apr. 1941. — **IRVINE** (ex-*Noranda*) 30 June 1941

Displacement: 590 tons *standard* (790 tons *full load*)
Dimensions: 162 × 28 × 8¾ feet
Machinery: Diesel. 2 shafts. B.H.P.: 2,000 = 16 kts.

Notes
Both ex-minesweepers of Canadian " Bangor " diesel type. Launch dates above. *French* (photograph in the 1959-60 edition) is alongside at Halifax as a depot ship. *Irvine* is still operational. Sister ship *Macbrien* was deleted from the list in 1959.



FORT STEELE — 1960, *Director of Marine Services, Official*

1 " Fort " Class

FORT STEELE
Displacement: 85 tons
Dimensions: 118 (*o.a.*), 110 (*w.l.*) × 21 × 7 feet
Machinery: Two 18-cyl. Napier Deltic engines. 2 shafts. 2 Kamewa variable pitch propellers. B.H.P.: 5,000 = over 20 kts.
Complement: 16

Notes
Built by Canadian Shipbuilding & Engineering Ltd. Completed in Nov. 1958. Used as a high speed patrol craft on the east coast, this vessel is built of steel with aluminium superstructure, and has twin rudders.

Recent Disposals
The four old boats of the " Fort " class (Fairmile " B " type motor launches) were stricken from the list in 1959.

2 " Bird " Class (*Patrol Craft*, PCS Type)

BLUE HERON — **VICTORIA**

Displacement: 66 tons *full load*
Dimensions: 92 × 17 × 5½ feet
Machinery: 2 diesels. B.H.P.: 1,200 = 14 kts.

Blue Heron was built for the Royal Canadian Navy by Hunter Boat Works, Orilla. Launched at Barrie, Ontario, in Dec. 1955. Completed on 30 July 1956. Transferred, on loan, to the R.C.M.P. Marine Section on 19 Nov. 1956 as a sea rescue craft. Similar to *Loon* (see photograph on previous page).

Victoria was built for the R.C.M.P. by Yarrows Limited, Victoria. Completed in Dec. 1955. She is a steel copy of the wooden " Bird " class inshore patrol vessels, similar to the *Loon* and *Mallard*.

13 " Detachment " Class (Coastal) Patrol Boats

ACADIAN — **CAPTOR** — **MASSET**
ADVERSUS — **DETECTOR** — **NANAIMO**
ALERT — **GANGES** — **SIDNEY**
BURIN — **INTERCEPTOR** — **TOFINO**

Displacement: 48 tons
Dimensions: 65 × 15 × 4 feet
Machinery: 1 Cummins diesel. 1 shaft. B.H.P.: 410 = 12 kts.

Notes
Coastal patrol police boats built for service on the east and west coasts.

LITTLE BOW 2
Displacement: 27 tons
Dimensions: 55 × 14 × 4 feet
Machinery: 2 General Motors turbojet engines. B.H.P.: 600 = 16 kts.

Notes
This turbojet craft was built as an experiment and no additions are contemplated.

6 " Detachment " Class (Great Lakes)

CARNDUFF II — **CUTKNIFE II** — **SHAUNAVON II**
CHILCOOT II — **MOOSOMIN II** — **TAGISH II**

Dimensions: 50 × 15 × 3 feet
Machinery: 2 gasoline engines. B.H.P.: 750 = over 20 kts.

Notes
A new class of small, fast patrol craft built for service on the Great Lakes.

CEYLON

Administration

The Royal Ceylon Navy came into being on 9 Dec. 1950, the date on which the Navy Act was proclaimed.

Captain of the Navy:

Rear Admiral G. R. M. de Mel, O.B.E., A.D.C.

Naval Base

The Naval Base is established at Colombo.

Personnel

1957: 85 officers and 855 ratings
1958: 130 officers and 1,300 ratings
1959: 136 officers and 1,650 ratings
1960: 154 officers and 1,820 ratings

FRIGATES

2 Ex-Canadian " River " Class

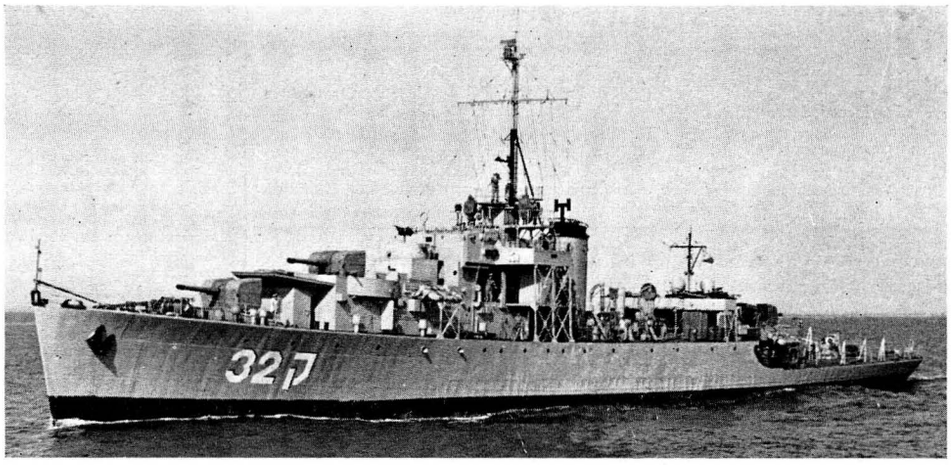
GAJABAHU (ex-*Misnak*, ex-H.M.C.S. *Hallowell*)

MAHASENA (ex-*Mivtakh*, ex-H.M.C.S. *Violetta*)

Name:	*Gajabahu*	*Mahasena*
Pennant No.	F 232	F 228
Builders:	Canadian Vickers Ltd., Montreal, P.Q.	
Launched:	8 Aug. 1944	1944

Displacement: 1,445 tons *standard* (2,360 tons *full load*)
Dimensions: 301½ × 36½ × 12 feet
Guns: 3—4 inch, 8—20 mm. AA.
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers: 2, of three-drum type
Oil fuel: 585 tons
Radius: 6,000 miles at 12 kts.
Complement: 160

Notes
Former Canadian " River " type frigates acquired by the Israeli Government in 1950 and sold by Israel to the Royal Ceylon Navy in 1959.



GAJABAHU *Official*

ESCORT MINESWEEPERS

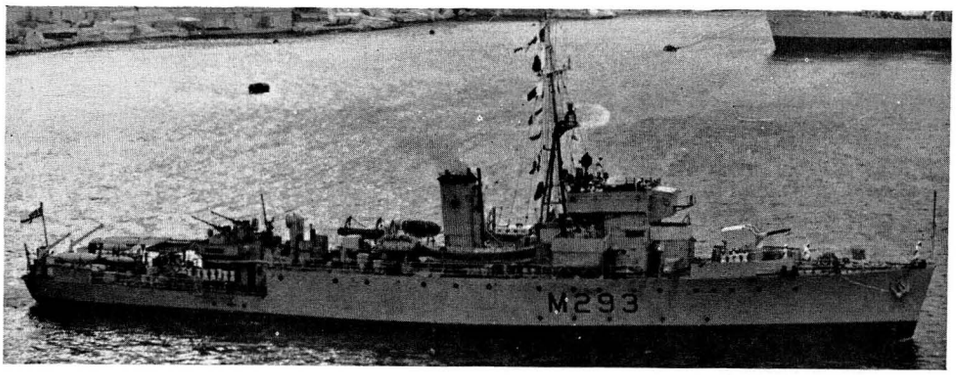
2 " Algerine " Class

PARAKRAMA (ex-H.M.S. *Pickle*)

VIJAYA (ex-H.M.S. *Flyingfish*, ex-*Tillsonburg*)

Name:	*Parakrama*	*Vijaya*
Pennant No.:	M 293	M 370
Builders:	Harland & Wolff Ltd., Belfast	Redfern Construction Co.
Laid down:	11 Jan. 1943	30 Oct. 1943
Launched:	3 Aug. 1943	16 Feb. 1944
Completed:	15 Oct. 1943	14 Oct. 1944

Displacement: 1,040 tons *standard* (1,335 tons *full load*)
Dimensions: 225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns: 1—4 inch, 4—40 mm. AA.
A/S weapons: 2 D.C.T.
Machinery: *Vijaya:* Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts.
Parakrama: Geared Turbines. 2 shafts. S.H.P.: 2,000=16·5 kts.
Boilers: 2, of 3-drum type
Oil fuel: 270 tons
Radius: 3,200 miles at 10 kts.
Complement: 100



PARAKRAMA 1960, *A. & J. Pavia*

General Notes
Vijaya was a Canadian built " Algerine " class ocean minesweeper. She was transferred from Great Britain to the Ceylon Government in Sep. 1949. *Parakrama* was transferred from Great Britain to the Royal Ceylon Navy with effect from 30 July 1958. She was officially handed over to the Royal Ceylon Navy at Devonport on 6 Apr. 1959.

Photograph Notes
A photograph of *Vijaya* appears in the 1957-58 to 1959-60 editions.

SEAWARD DEFENCE BOAT



KOTIYA 1956, *Royal Ceylon Navy, Official*

1 " Ford " Class

KOTIYA (ex-H.M.S. *Desford*)

Displacement: 120 tons *standard* (160 tons *full load*)
Dimensions: 110 (*pp.*), 117¼ (*o.a.*) × 20 × 4½ feet
Guns: 1—40 mm. Bofors AA.
A/S weapons: Depth charge release gear
Machinery: 2 Davey Paxman diesels Foden engine on centre shaft. Speed=18 kts.
Complement: 20

General Notes
" Ford " class, 3101 series. Transferred from Great Britain to the Royal Ceylon Navy in 1955.

Boom Defence Vessel Notes
The boom defence vessel *Baron* was purchased from Great Britain by the Colombo Port Commission (full particulars and photograph appear in the 1958-59 and 1959-60 editions)

PATROL BOATS

2 " Hansaya " Class

HANSAYA **LIHINIYA**

Displacement: 36 tons
Dimensions: 63 7/12 (*pp.*), 66 (*o.a.*) × 14 × 4 feet
Machinery: 3 General Motors diesels

Notes
" Hansaya " class long patrol boats built for the Ceylon Navy at Venice by the Korody Marine Corporation. Photograph of *Lihiniya* in the 1957-58 to 1959-60 editions.

4 " Seruwa " Class

DIYAKAWA **KORAWAKKA** **SERUWA** **TARAWA**

Displacement: 13 tons
Dimensions: 46 (*pp.*), 48 (*o.a.*) × 12 × 3 feet
Machinery: 2 Foden FD.6 diesels

Notes
" Seruwa " class short patrol boats. Photograph of *Diyakawa* in the 1957-58 to 1959-60 editions.

SEAGOING TUG

1 " Empire " Class

ALIYA (ex-*Adept*, ex-*Empire Barbara*)

Displacement: 503 tons *full load*
Dimensions: 105 × 26½ × 12¾ feet
Machinery: Triple expansion. I.H.P.: 850=10 kts.

Notes
Built by Cochrane & Sons Ltd., Selby, Yorks., England. Transferred from Great Britain.

INDIA

Administration

The Chief of the Navy Staff, Indian Navy:
Vice-Admiral Ram Dass Katari, I.N.
Deputy Chief of the Naval Staff:
Rear-Admiral A. K. Chatterji, I.N.
Flag Officer Commanding, Indian Fleet:
Rear-Admiral B. S. Soman, I.N.
Chief of Personnel:
Commodore K. P. R. K. Nair, I.N.
Chief of Material:
Commodore P. K. Mukerjee, I.N.
Chief of Naval Aviation:
Captain D. W. Kirke, O.B.E., R.N.

Naval Adviser to the High Commissioner for India in the United Kingdom:
Captain J. D. Mody, I.N.

Dockyards

Defence Minister announced that the Government had acquired two dockyards, one in Bombay and the other in Calcutta.

Ships

The title "Indian Flotilla" was changed to "Indian Fleet," effective on 30 Dec. 1957.

Personnel

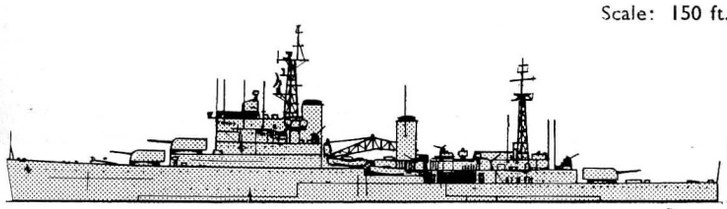
1959: 800 officers; 8,000 ratings.
1960: 1,200 officers; 12,000 ratings.

Mercantile Marine

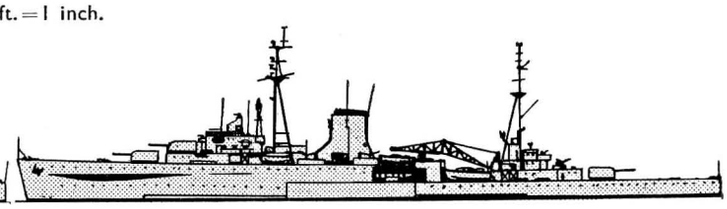
Lloyd's Register of Shipping:
238 vessels of 749,711 tons *gross*

Silhouettes

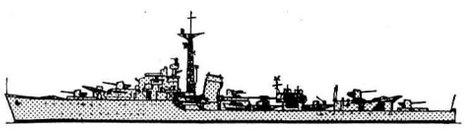
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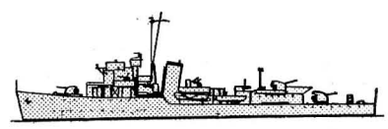
MYSORE



DELHI



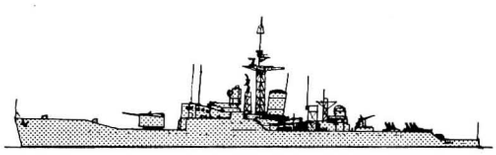
RANA, RAJPUT, RANJIT



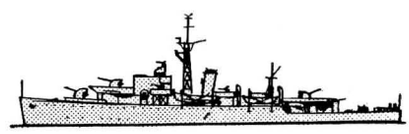
GANGA, GODVARI, GOMATI



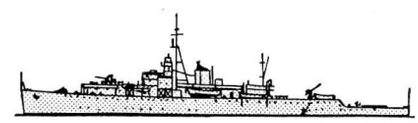
SUTLEJ



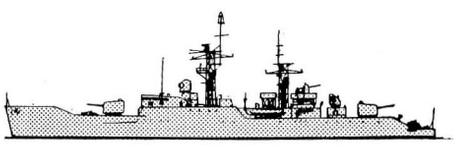
TALWAR, TRISHUL



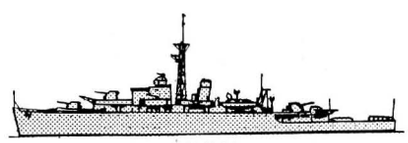
CAUVERY, KISTNA



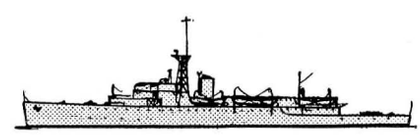
TIR



BEAS, BETWA, BRAHMAPUTRA

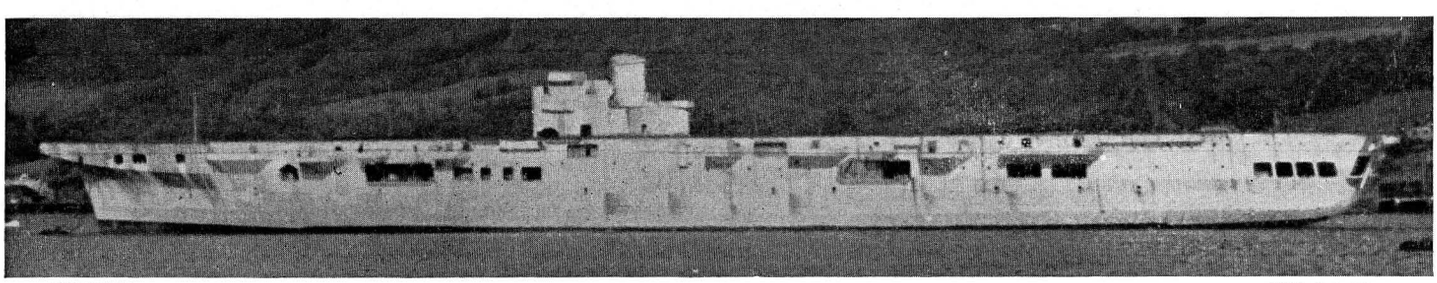


JUMNA



INVESTIGATOR

AIRCRAFT CARRIER



VIKRANT

1955, *P. A. Vicary*

I "Majestic" Class

VIKRANT (ex-H.M.S. *Hercules*)

Pennant No.	R 11
Builders:	Vickers-Armstrongs, Ltd., Tyne
Engineers:	Parsons Marine Steam Turbine Company
Laid down:	14 Oct. 1943
Launched:	22 Sep. 1945
Suspended:	May 1946
Resumed:	Apr. 1957
Completed:	To be 1961
Displacement:	16,000 tons *standard* (20,000 tons *full load*)
Dimensions:	Length: 630 (*pp.*), 700 (*o.a.*) feet. Beam (*hull*): 80 feet. Draught: 24 feet. Width overall, including angled deck and mirror sponsons: 128 feet
Guns:	Armament under review
Aircraft:	34 (capacity)
Machinery:	Parsons single-reduction geared turbines. 2 shafts. S.H.P.: 42,000= 24·5 kts. designed
Boilers:	4 Admiralty 3 drum type (400 lb. working pressure. 700 degrees maximum superheat)
Complement:	1,343

General Notes
Air-conditioned and insulated for tropical service, ship's sides being sprayed with asbestos cement instead of being lagged. Separate messes and dining halls. Pressed W/T doors of smaller pattern.

Building Notes
The construction of this ship was suspended almost immediately after her launch. When she was structurally approaching completion (see photo) and was about 75 per cent fitted out the contract was cancelled, and in May 1947 she was laid up at Faslane, Scotland.

Transfer Notes
In Jan. 1957 she was acquired from the Government of Great Britain for the Indian Navy.

Reconstruction Notes
In Apr. 1957 she arrived at Belfast to be taken in hand for large scale reconstruction and modernisation by Harland & Wolff Ltd., variously estimated to take up to four years to complete.

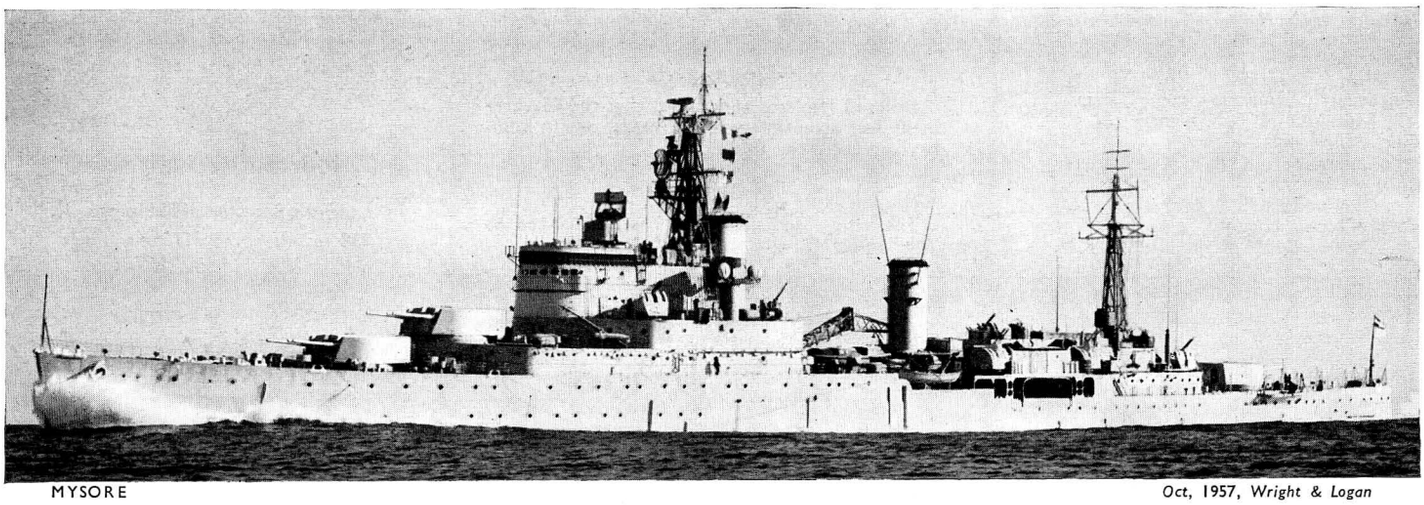
Engineering Notes
Turbines and boilers are arranged *en echelon*, one set of engines and two boilers being installed side by side in each of the two main propelling machinery spaces, on the unit system, so that starboard propeller shaft is longer than the port. Maximum speed: 25 kts.

Flight Deck Notes
Ten arrester wires. Catapult: single track, 20,000 lb. at 60 kts. Catapult accelerator gear port side forward. (These particulars applied before reconstruction.) Will probably have four arrester wires after modernisation.

Nomenclature Notes
The *Hercules* was allocated the new Indian name *Vikrant* in 1959.

Class Notes
Sister ship of *Leviathan* (still suspended) and *Magnificent* (in the Royal Canadian Navy 1946-47) in the British Navy; *Sydney* (ex-*Terrible*) and *Melbourne* (ex-*Majestic*) in the Royal Australian Navy; and *Bonaventure* (ex-*Powerful*) in the Royal Canadian Navy.

CRUISERS



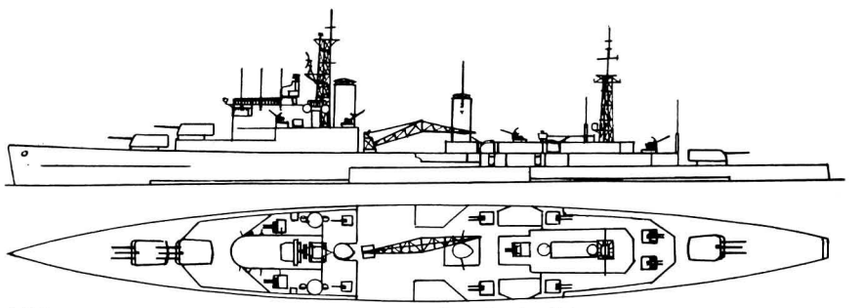
MYSORE

Oct, 1957, Wright & Logan

1 "Mauritius" Class

MYSORE (*ex-Nigeria*)

Pennant No.:	C 60
Builders:	Vickers-Armstrongs, Ltd., Tyne
Engineers:	Parsons
Laid down:	8 Feb. 1938
Launched:	18 July 1939
Completed:	20 Sep. 1940
Displacement:	8,700 tons *standard* (11,040 tons *full load*)
Dimensions:	Length: 549 (*w.l.*), 555½ (*o.a.*) feet Beam: 62 feet. Draught: 16½ (*mean*), 21 (*max.*) feet
Guns:	9—6 inch, 8—4 inch AA., 12—40 mm. AA. (5 twin, 2 single)
Tubes:	Removed
Armour:	4½"-3" side, 2" turrets, 4" C.T., 2" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 72,500=31·5 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	730



General Notes

Purchased from Great Britain (announced 8 April, 1954) for £300,000. Underwent an extensive refit and conversion by Cammell Laird & Co. Ltd., Birkenhead, which was completed at the end of 1957, before commissioning for operational service. Now flagship of the Indian Navy.

Transfer Notes

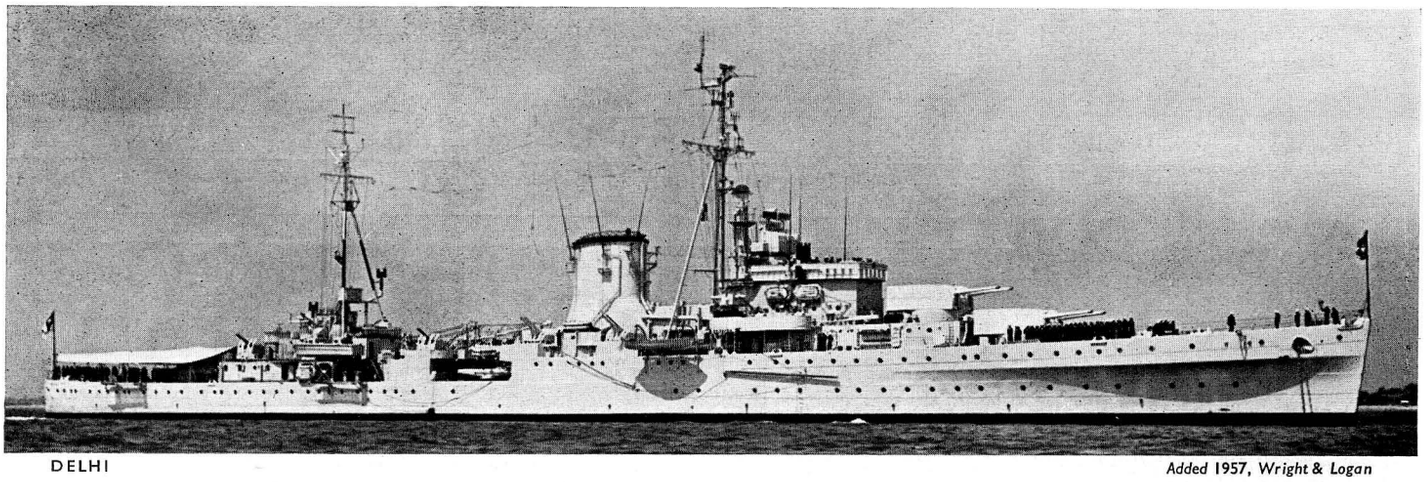
The ship was formally handed over to the Indian Navy at Birkenhead and renamed *Mysore* on 29 Aug. 1957.

Reconstruction Notes

Ship formerly had tripod masts. During reconstruction the triple 6 inch turret in "X" position and the 6—21 inch torpedo tubes (tripled) were removed and two lattice masts were stepped. Bridge was modified as in British *Newfoundland*. All electrical equipment was replaced and the engine room and other parts of the ship were refitted extensively.

Notes to Drawing

Port elevation and plan. Redrawn in 1958.
Scale: 128 feet = 1 inch.



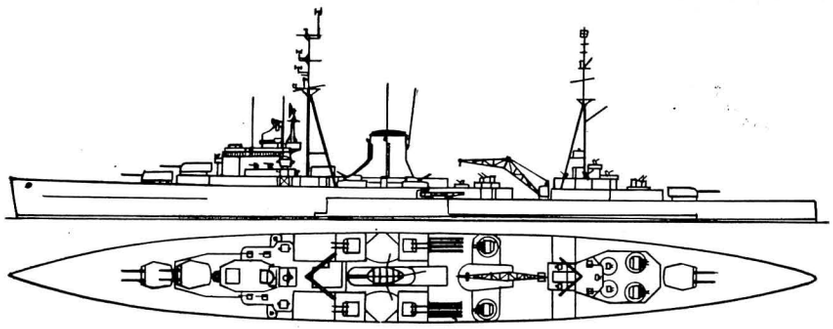
DELHI

Added 1957, Wright & Logan

1 "Leander" Class

DELHI (ex-*Achilles*)

Pennant No.:	C 74
Builders:	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	11 June 1931
Launched:	1 Sep. 1932
Completed:	10 Oct. 1933
Displacement:	7,030 tons *standard* (9,740 tons *full load*)
Dimensions:	Length: 530 (*pp.*), 554½ (*o.a.*) feet. Beam: 55½ feet. Draught: 16 feet (*mean*), 20 feet (*max.*)
Guns:	4—6 inch, 8—4 inch AA., 14—40 mm. AA., 4—3 pdr.
Tubes:	Removed
Armour:	4"—2" side, 1" gunhouses, 1" bridge, 2" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 72,000=32 kts.
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,800 tons
Complement:	680



General Notes

Purchased from Great Britain and delivered on 5 July 1948. Refitted in 1955. Formerly the flagship of the Indian Navy until relieved by the *Mysore* in 1957.

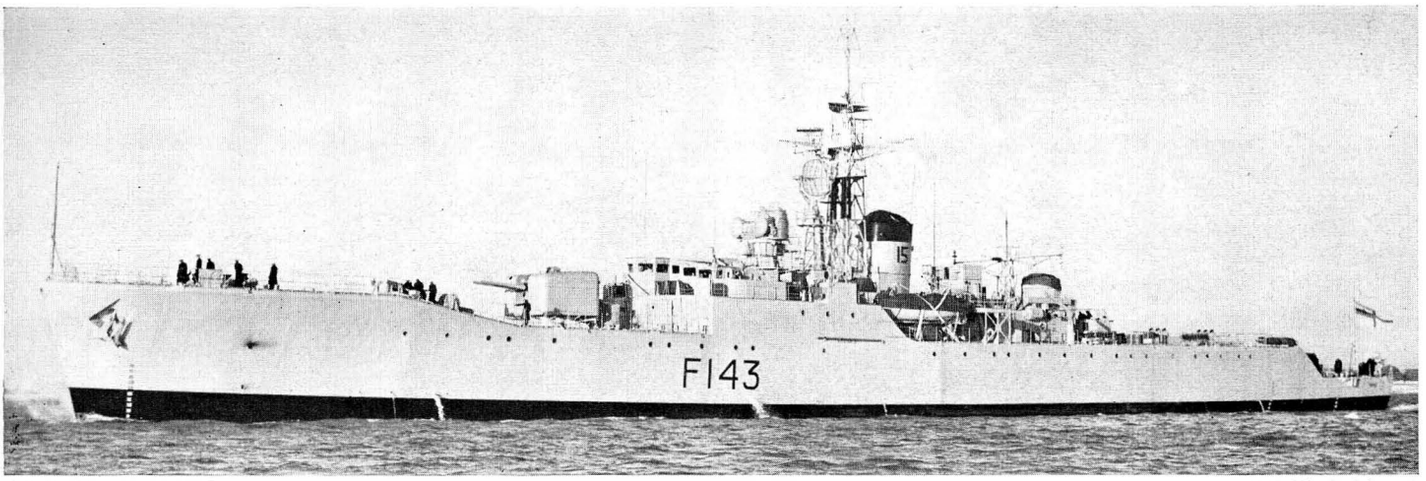
Historical Notes

As H.M.S. *Achilles*, this ship, with H.M.S. *Ajax* and H.M.S. *Exeter*, defeated the German armoured ship (pocket battleship) *Admiral Graf Spee* in the Battle of the River Plate, 17 Dec. 1939. The *Achilles* was at that time lent to the Royal New Zealand Navy.

Notes to Drawing

Port elevation and plan. Redrawn in 1957. Scale: 128 feet = 1 inch. "Y" turret has now been removed. The 8—21 inch torpedo tubes (two quadruple banks) have also been landed and the forecastle plating has been extended aft to the twin 40 mm. AA. guns abreast the boat stowage.

ANTI-SUBMARINE FRIGATES



TRISHUL — 1960, *Wright & Logan*

2 "Whitby" Class. 1st Rate

	TALWAR	**TRISHUL**
Name:	*Talwar*	*Trishul*
Pennant No.:	F 140	F 143
Builders:	Cammell Laird & Co. Ltd., Birkenhead	Harland & Wolff Ltd., Belfast
Launched:	18 July 1958	18 June 1959
Completed:	1960	1960

Displacement: 2,144 tons *standard* (2,545 and 2,557 tons *full load*, respectively)
Dimensions: 360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns: 2—4·5 inch, 4—40 mm. AA. (twin over tubes, single abreast funnel)
Tubes: 12—21 inch (8 single A/S, two twin)
A/S weapons: 2 Limbo three barrelled depth charge mortars
Machinery: 2 sets geared turbines. 2 shafts S.H.P.: 30,430=over 30 kts.
Boilers: 2 Babcock & Wilcox
Complement: 231 (11 officers, 220 ratings)

Notes
Built in Great Britain and generally similar to the British frigates of the "Whitby" class, but modified to suit Indian conditions. Talwar is a common type of weapon in India.

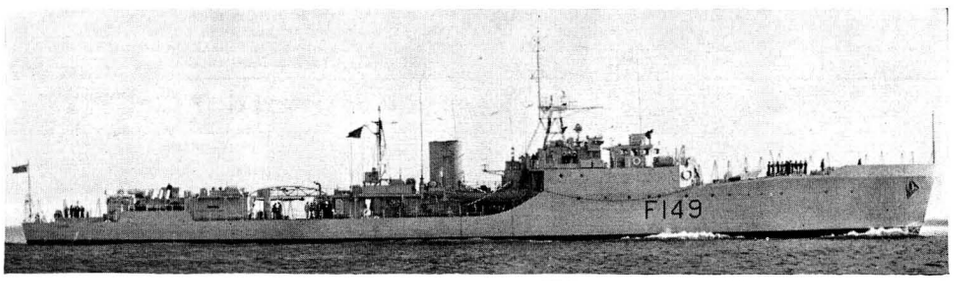
3 "Blackwood" Class. 2nd Rate

KHUKRI **KIRPAN** **KUTHAR**

Displacement: 1,020 tons *standard* (1,536 tons *full load*)
Dimensions: 300 (*pp.*), 310 (*o.a.*) × 33 × 10 feet
Guns: 3—40 mm. Bofors AA. Mk. 9
Tubes: 4—21 inch (two twin)
A/S weapons: 2 Limbo three-barrelled depth charge mortars, Mk. 10
Machinery: 1 set geared turbines. 1 shaft. S.H.P.: 15,000= 27·8 kts (24·5 kts. *max.* continuous sea speed)
Boilers: 2 Babcock & Wilcox
Complement: 140

Pennant No.	*Name*	*Builders*
F 149	*Khukri*	J. Samuel White & Co. Ltd., Cowes
F 144	*Kirpan*	Alex Stephen & Sons Ltd., Glasgow
F 146	*Kuthar*	J. Samuel White & Co. Ltd., Cowes

Name	*Launched*	*Completed*
Khukri	20 Nov. 1956	16 July 1958
Kirpan	19 Aug. 1958	July 1959
Kuthar	14 Oct. 1958	1959



KHUKRI — 1960, *courtesy J. Samuel White & Co., Ltd., Builders*

Notes
Built in Great Britain, and generally similar to the British frigates of the "Blackwood" class; but slightly modified to suit Indian requirements. Kirpan means Sword.

DESTROYERS

3 "R" Class

RANA (ex-*Raider*) **RANJIT** (ex-*Redoubt*)
RAJPUT (ex-*Rotherham*)

Displacement: 1,735 tons (*Rajput* 1,750 tons) *standard*; 2,495 tons (*Rajput* 2,510 tons) *full load*
Dimensions: 358¼ × 35⅜ × 9½ (*mean*), 16 (*max.*) feet
Guns: 4—4·7 inch, 4—2 pdr. pompoms, 6—20 mm. AA.; but *Rana* and *Ranjit* have 4—40 mm. AA.
Tubes: 8—21 inch (two quadruple mountings)
A/S weapons: 4 D.C.T.
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts. (*max.*), 32 kts. sea speed
Boilers: 2 Admiralty 3-drum type
Oil fuel: 490 tons
Radius: 2,500 miles at 20 kts.
Complement: 200

General Notes
These were the first British destroyers with officers' accommodation forward instead of aft. They were refitted and modernised prior to transfer, *Ranjit* on 4 July 1949; *Rajput* on 29 July 1949; and *Rana* in Sept. 1949. All three arrived in Indian waters in Jan. 1950. They constitute the 11th Destroyer Squadron of which *Rajput* is Leader. The Defence Minister has announced that India hopes to build destroyers in the next two years at the dockyards acquired by the Indian Navy in Bombay and Calcutta.

Photograph Notes
Photograph of *Rana* in the 1953-54 to 1957-58 editions. Photograph of *Rajput* in the 1953-54 to 1959-60 editions.



RANJIT — *Added* 1954, *Wright & Logan*

Pennant No.	*Name*	*Builders*
D 115	*Rana*	Cammell Laird & Co. Ltd., Birkenhead
D 209	*Rajput*	John Brown & Co. Ltd., Clydebank
D 141	*Ranjit*	John Brown & Co. Ltd., Clydebank

Name	*Begun*	*Launched*	*Completed*
Rana	16 Apr. 1941	1 Apr. 1942	16 Nov. 1942
Rajput	10 Apr. 1941	21 Mar. 1942	27 Aug. 1942
Ranjit	19 June 1941	2 May 1942	1 Oct. 1942

Escort Destroyers (Frigates)
3 "Hunt" Class, Type II

GANGA (ex-*Chiddingfold*)
GODAVARI (ex-*Bedale*, ex-*Slazak*, ex-*Bedale*)
GOMATI (ex-*Lamerton*)

Displacement: 1,050 tons *standard* (1,610 tons *full load*)
Dimensions: 264¼ (*pp.*), 280 (*o.a.*) × 31½ × 7⅞ (*mean*), 14 (*max.*) feet
Guns: 6—4 inch AA., 4—2 pdr. pompoms, 2 to 4—20 mm. AA.
Machinery: Parsons geared turbines. 2 shafts S.H.P.: 19,000=25 kts.
Boilers: 2 Admiralty 3-drum type
Oil fuel: 280 tons
Radius: 3,700 miles at 14 kts.
Complement: 146

General Notes
"Hunt" class, Type II frigates (ex-Escort Destroyers) F 131, F 126, and F 88, respectively. Transferred from Great Britain April/May 1953. Lent to Indian Navy for a period of three years, subject to extension by agreement. Now officially rated as destroyers with D pennant Nos.

Photograph Notes
Photograph of *Godavari* in the 1953-54 to 1955-56 editions. Photograph of *Ganga* in the 1954-55 to 1959-60 editions.

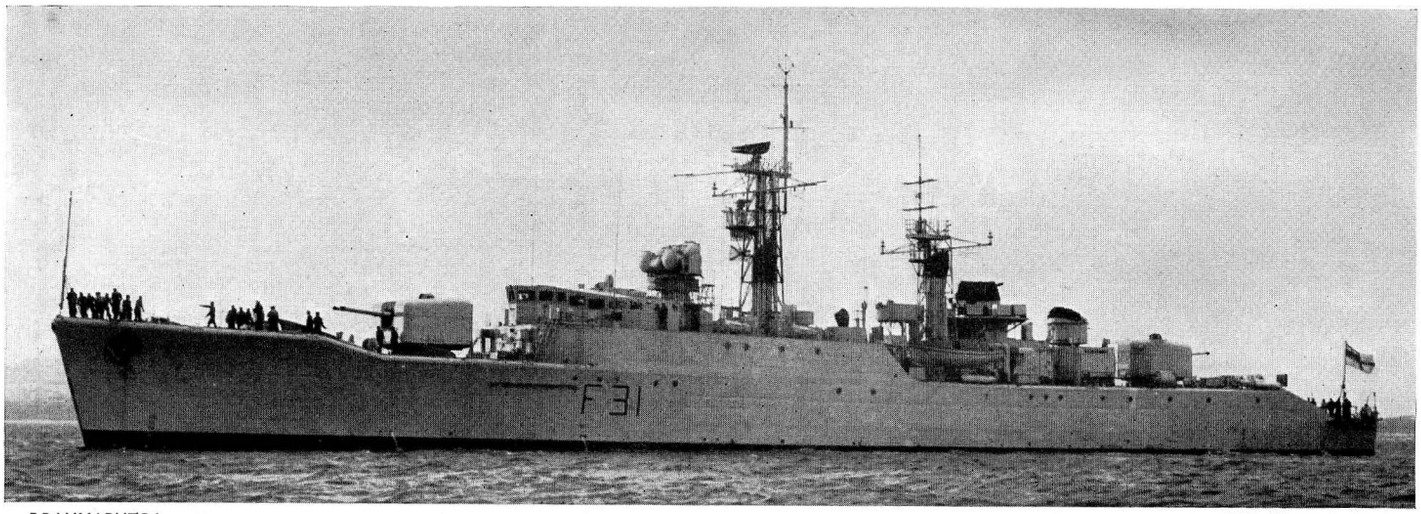


GOMATI — 1954, *A. & J. Pavia*

Pennant No.	*Name*	*Builders*
D 94	*Ganga*	Scott's Shipbuilding & Engineering Co. Ltd., Greenock
D 92	*Godavari*	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn
D 93	*Gomati*	Swan, Hunter & Wigham Richardson Ltd., Wallsend

Name	*Laid down*	*Launched*	*Completed*
Ganga	1 Mar. 1940	10 Mar. 1941	16 Oct. 1941
Godavari	29 May 1940	5 Sep. 1941	18 June 1942
Gomati	10 Apr. 1940	14 Dec. 1940	16 Aug. 1941

ANTI-AIRCRAFT FRIGATES



BRAHMAPUTRA

1958, *Wright & Logan*

3 " Leopard " Class

BEAS BETWA BRAHMAPUTRA (ex-*Panther*)

Displacement:	2,251 tons *standard* (2,482 tons *full load*)
Dimensions:	330 (*pp.*), 340 (*o.a.*) × 40 × 10 (*mean*) 12 (*max.*) feet
Guns:	4—4·5 inch (in two twin turrets), 2—40 mm. AA. (twin)
A/S weapons:	Squid triple barrelled depth charge mortar
Machinery:	Admiralty standard range diesels 2 shafts. B.H.P.: 12,380=25 kts.
Complement:	200

Notes

Brahmaputra was originally ordered as the *Panther* for the Royal Navy on 28 June 1951. All three ships are generally similar to the British frigates of the " Leopard " class, but modified to suit Indian conditions. The *Brahmaputra* is the first major warship to be built in Great Britain for the Indian Navy since India became independent.

Pennant No.	*Name*	*Builders*
F 137	*Beas*	Vickers Armstrongs Ltd., Tyne
F 139	*Betwa*	Vickers Armstrongs Ltd., Tyne
F 31	*Brahmaputra*	John Brown & Co. Ltd., Clydebank

Name	*Launched*	*Completed*
Beas	9 Oct. 1958	1960
Betwa	15 Sep. 1959	1960
Brahmaputra	15 Mar. 1957	31 Mar. 1958

TRAINING FRIGATE

1 " River " Class

TIR (ex-*Bann*)

Displacement:	1,490 tons *standard* (2,216 tons *full load*)
Dimensions	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 14 feet
Guns:	1—4 inch, 1—40 mm., 2—20 mm.
Machinery:	Reciprocating vertical 4-cylinder triple expansion. 2 shafts. I.H.P : 5,500=18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	640 tons
Radius:	9,500 miles at 12 kts.
Complement:	118

Notes

Former " River " class frigate in Royal Navy. Converted to a Midshipmen's Training Frigate by Bombay Dockyard in 1948. Originally the sister ship of survey ship *Investigator*, see below.

Recent Disposals

The old frigates (ex-sloops) *Cauvery* and *Kistna* are being disposed of in the near future (see full particulars and photograph in the 1959-60 edition).



TIR

1954, *Wright & Logan*

SURVEYING VESSELS

1 New Construction

DARSHAK

Builders:	Hindustan Shipyard
Launched:	2 Nov. 1959
Displacement:	2,790 tons
Dimensions:	319 (*o.a.*) × 49 × 28¾ feet
Aircraft:	1 helicopter
Machinery:	2 diesel-electric propulsion plants. Service speed=16 kts.

Notes

This ship marks a new stage in Indian shipbuilding. She was the first ship to be built by the Indian yard for the Navy. When completed the ship will be operated by the Navy's hydrographic branch to undertake a marine survey of the Indian coastline and harbours. She is being fitted with the latest surveying and navigational equipment, and will have several surveying boats and motor launches. She will also carry a helicopter. The ship is all welded.

1 " River " Class (ex-Frigate)

INVESTIGATOR (ex-*Khukri*, ex-*Trent*)

Displacement:	1,460 tons *standard* (2,000 tons *full load*)
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 12 feet
Machinery:	Triple expansion. I.H.P.: 5,500= 20 kts. (*max.*)
Boilers:	2 Admiralty 3-drum type
Complement:	100

Notes

Former " River " class frigate in Royal Navy. Converted to a surveying vessel and renamed *Investigator* in 1951. Originally the sister ship of the training frigate *Tir*, see above.

Name:	*Investigator*	*Tir*
Pennant No.:	F 243	F 256
Builders:	Charles Hill & Sons Ltd., Bristol	Charles Hill & Sons Ltd., Bristol
Laid down:	31 Jan. 1942	18 June 1942
Launched:	10 Oct. 1942	29 Dec. 1942
Completed:	27 Feb. 1943	7 May 1943

2 "Sutlej" Class (Ex-Frigates, ex-Sloops)

JUMNA

Displacement:	1,300 tons *standard* (1,735 tons *full load*)
Dimensions:	266 (*w.l.*), 292½ (*o.a.*) × 37½ × 10⅝ (*mean*) feet
Guns:	6—4 inch, 6—20 mm. AA.
A/S weapons:	4 D.C.T. (88 D.C.s)
Machinery:	Parsons geared turbines. 2 shafts S.H.P.: 3,600=18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	197

Notes

Jumna together with *Cauvery* and *Kistna* (see notes above) formerly constituted the 12th Frigate Squadron. In 1957 she was employed as a survey ship.

SUTLEJ

Displacement:	1,300 tons *standard* (1,735 tons *full load*)
Dimensions:	266 (*w.l.*), 292½ (*o.a.*) × 37½ × 10⅝ feet
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 3,600=18 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	160

Notes

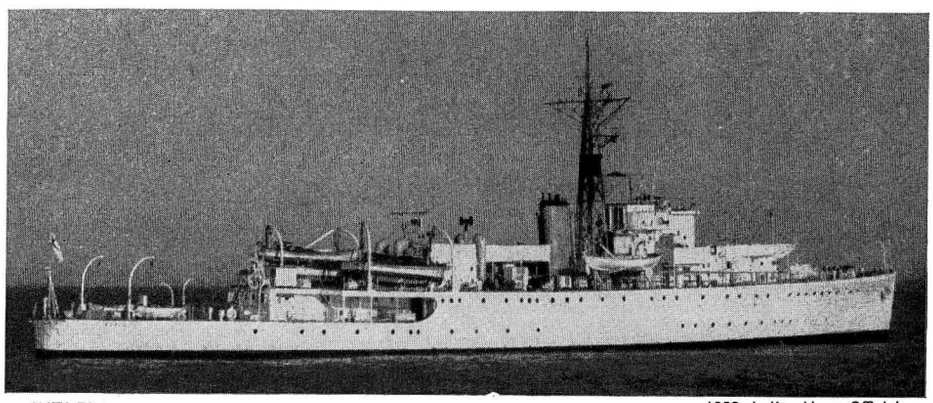
Former frigate employed as a survey ship since 1955. Sister ship of frigate (ex-sloop) *Jumna*, see above.

Both the above ships are generally similar to the former British frigates of the " Egret " class.

Name:	*Jumna*	*Sutlej*
Pennant No.:	F 11	F 95
Builders:	Wm. Denny & Bros. Ltd., Dumbarton	Wm. Denny & Bros. Ltd., Dumbarton
Laid down:	20 Feb. 1940	4 Jan. 1940
Launched:	16 Nov. 1940	1 Oct. 1940
Completed:	13 May 1941	23 Apr. 1941

Recent Disposals

The old ocean minesweepers, *Bengal*, *Bombay*, *Madras*, *Rohilkhand*, *Konkan* and *Rajputana* are being disposed of in the near future (see full particulars and photographs in the 1959-60 edition).



SUTLEJ

1958, *Indian Navy, Official*

COASTAL MINESWEEPERS



CANNANORE 1957 *Wright & Logan*

4 " Ton " Class

CANNANORE (ex-*Whtton*) M 1191 **KAKINADA** (ex-*Durweston*) M 1201
CUDDALORE (ex-*Wennington*) M 1190 **KARWAR** (ex-*Overton*) Leader M 1197

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8¼ feet
Guns:	1—40 mm. Bofors AA., 2—20 mm. AA.
Machinery	Napier Deltic diesels. 2 shafts. B.H.P.: 1,250=15 kts.
Oil fuel:	45 tons
Complement:	27

Notes

" Ton " class coastal minesweepers of wooden construction built for the Royal Navy, but transferred from Great Britain to the Indian Navy in 1956. *Cannanore* built by Fleetlands Shipyard, Ltd., Gosport, launched 28 Jan. 1956; *Karwar* built by Camper & Nicholson, Ltd., Gosport, launched 30 Jan. 1956. *Cuddalore* built by J. S. Doig, Ltd., Grimsby, and *Kakinada* built by Dorset Yacht Co. Ltd., Hamworthy, taken over in August 1956, and sailed for India Nov./Dec. 1956. Named after minor ports in India. Four more are to be acquired. Coastal minesweepers will first be built at the dockyards acquired by the Indian Navy in Bombay and Calcutta.

INSHORE MINESWEEPERS



BIMLIPITAN 1956, *A. & J. Pavia*

2 " Ham " Class

BASSEIN (ex-*Littleham*) M 2707 **BIMLIPITAN** (ex-*Hildersham*) M 2705

Displacement:	120 tons *standard* (160 tons *full load*)
Dimensions:	100 (*pp.*), 106½ (*o.a.*) × 21½ × 5 feet
Guns:	1—20 mm. Bofors AA. (when mounted)
Machinery:	2 Paxman diesels. B.H.P.: 550=14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	20

Notes

" Ham " class inshore minesweepers of wooden construction built for the Royal Navy but transferred from Great Britain to the Indian Navy in 1955. *Bassein* built by Brooke Marine Ltd., Oulton Broad, Lowestoft, launched 4 May, 1954; *Bimlipitan* built by Vosper Ltd., Portsmouth, launched 5 Feb. 1954.

MOTOR MINESWEEPERS

BARQ (ex-*MMS* 132) **MMS 130** **MMS 154**

Displacement:	163 tons *standard* (232 tons *full load*)
Dimensions:	105 (*pp.*), 119 (*o.a.*) × 23 × 9¼ feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	Diesel. B.H.P.: 500=10 kts.
Complement:	30

Notes

Former British motor minesweepers of " 105 ft." type. Of wooden construction. Transferred from Great Britain.

SEAWARD DEFENCE BOATS

3 New Construction

Displacement:	100 tons
Dimensions:	117 (*o.a.*) × 20 × 4½ feet
Guns:	1—40 mm. AA.
Machinery:	2 diesels

Notes

Reported that three seaward defence craft generally similar to the " Ford " class in the Royal Navy are being built in private Indian yards for the Indian Navy.

TORPEDO MOTOR LAUNCH

ML 6420 (ex-*ML* 420)

Displacement:	65 tons
Dimensions:	112 × 18½ × 5 (*max.*) feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
Machinery:	2 Hall-Scott Defender engines. B.H.P.: 1,200=20 kts.
Complement:	18

Notes

Fairmile " B " type. At Bombay for training duties. Used as a Torpedo School Torpedo Firing Ship. Pennant No. P 6420. Photograph in the 1959-60 and earlier editions.

TENDER

DHARANI (ex-*Hermine*)

Notes

Cargo ship reported to be converted to a small tender. Work suspended in July 1957.

SEAWARD PATROL CRAFT



SPC 3112 1957, *Indian Navy, Official*

4 HDML Type

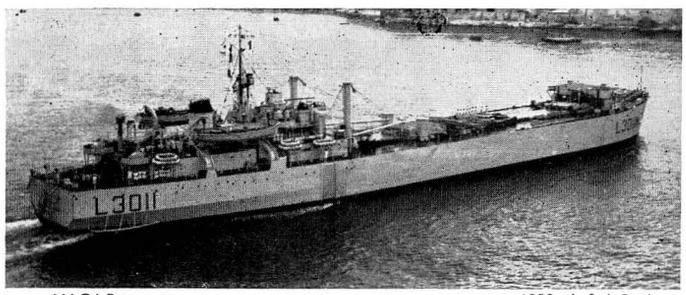
SPC 3110 (ex-*HDML* 1110) **SPC 3117** (ex-*HDML* 1117)
SPC 3112 (ex-*HDML* 1112) **SPC 3118** (ex-*HDML* 1118)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—3 pdr., 1—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 320=12 kts.
Complement:	14

Notes

Former British Harbour Defence Motor Launches. These boats, formerly known as Seaward Defence Motor Launches, constitute the 321st Sea/Land Patrol Craft Squadron.

LANDING SHIP



MAGAR 1958, *A. & J. Pavia*

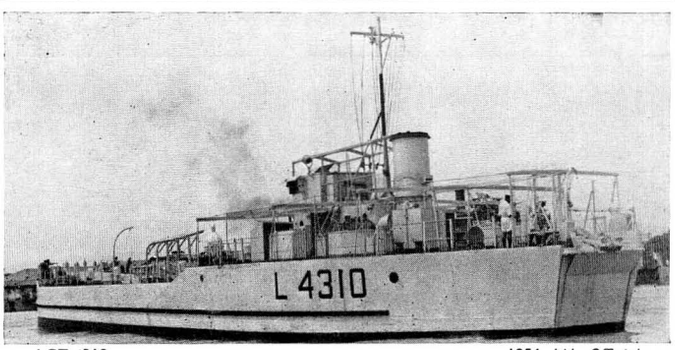
MAGAR (ex-*Avenger*, ex-*LST* (3) 3011)

Displacement:	2,256 tons *light* (4,890 tons *full load*)
Dimensions:	347½ (*o.a.*) × 55¼ × 12½ feet
Guns:	2—40 mm. Bofors AA.
Machinery:	Vertical reciprocating, 4 cylinder. 2 shafts. Speed: 12·75 kts.
Complement:	64

Notes

Former British tank landing ship of the LST (3) type transferred to the Indian Navy.

LANDING CRAFT



LCT 4310 1956, *I.N., Official*

LCT 4294 **LCT 4310**

Displacement:	200 tons
Dimensions:	187¼ × 38¾ × 3½ feet
Machinery:	Speed 9·5 kts.

Notes

3,000 added to original numbers. LCT 4117, 4298, 4315, 4358 and 4360 were discarded in 1957.

OILERS

SHAKTI

Notes

Rated as Fleet Replenishment Group Tanker. Acquired from Italy in Nov. 1953.

CHILKA **SAMBHAR**

Displacement:	1,082 tons
Dimensions:	202 × 30⅔ × 13 feet
Machinery:	Triple expansion. I.H.P.: 809=9 kts.
Oil capacity:	800 tons

Notes

Chilka built by Blythwood Shipbuilding Co., Scotstoun, *Sambhar* by A. & J. Inglis, Ltd., Glasgow, launched 1942. Both acquired in 1948. Engined by David Rowan & Co. Two steam dynamos, two steam pumps, ballast pump.

TUG

HATHI

Displacement:	668 tons
Dimensions:	147½ × 32⅔ × 12 feet
Machinery:	Triple expansion. Speed: 13·5 kts.

Notes

Built by Taikoo Dock & Eng. Co., Hong Kong. Launched in 1932.

MALAYA

COASTAL MINESWEEPER



MAHAMIRU *Added 1960, A. & J. Pavia*

MAHAMIRU (ex-H.M.S. *Darlaston*)

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8½ feet
Guns:	1—40 mm. Bofors AA. forward; 2—20 mm. Oerlikon AA. aft.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,250=15 kts. (*max.*)
Complement:	27 in peacetime (39 war)

Notes

Coastal minesweeper of the " Ton " class. Transferred from the Royal Navy to the Royal Malayan Navy in 1960 under the Malayan Defence Agreement.

INSHORE MINESWEEPERS



SRI PERLIS *Added 1959, Wright & Logan*

LANGKA SUKA (ex-H.M.S. *Bedham*) **SRI PERLIS** (ex-H.M.S. *Asheldham*)
SRI JOHOR (ex-H.M.S. *Altham*) **TEMASEK** (ex-H.M.S. *Brantingham*)

Displacement:	120 tons standard (159 tons *full load*)
Dimensions:	100 (*pp.*), 106⅝ (*o.a.*) × 21½ × 5½ feet
Guns:	1—20 mm. Oerlikon AA. forward (see *Gunnery Notes*)
Machinery:	2 Paxman diesels. B.H.P.: 550=14 kts. (9 kts. sweeping)
Oil fuel:	15 tons
Complement:	15 in peacetime (22 war)

General Notes

Inshore minesweepers of the " Ham " class, M 2601 Series. Transferred from Great Britain and renamed in 1958 (*Langka Suka* and *Temasek*) and 1959 (*Sri Johor* and *Sri Perlis*).

Sri Johor and *Sri Perlis* are at present armed with three 20 mm. Oerlikon anti-aircraft guns and four 2-pounder saluting guns in place of the acoustic and magnetic minesweeping gear.

Since the above photograph of *Sri Perlis* was taken her 40 mm. Bofors gun mounting has been replaced by a 20 mm. Oerlikon AA. gun and two more 20 mm. pieces have been temporarily mounted in lieu of the influence sweeping gear.

SEAWARD PATROL CRAFT



SRI PERAK *1960, Royal Malayan Navy, Official*

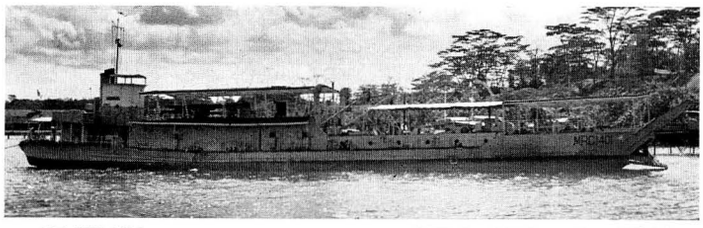
SRI KELANTAN (ex-*SDML* 3508) **SRI PERAK** (ex-*SDML* 3507)
SRI NEGRI SEMBILAN (ex-*SDML* 3506) **SRI SELANGOR** (ex-*SDML* 3509)
SRI PAHANG (ex-*SDML* 3505) **SRI TRENGGANU** (ex-*SDML* 3502)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	2—20 mm. Oerlikon AA.
Machinery:	2 Gardner diesels. 2 shafts. B.H.P.: 260 to 320=11 to 12 kts.
Complement:	11

Notes

Former British harbour defence motor launches (HDML) later known as seaward defence motor launches (SDML). The six vessels constitute the 200th Seaward Patrol Craft Squadron operating out of Singapore. *Sri Kedah* (ex-*SDML* 3501) was paid off in 1959 and scrapped.

LANDING CRAFT



SRI MELAKA *1960, Royal Malayan Navy, Official*

SRI MELAKA (ex-H.M.M.S. *Malaya*, ex-*MRC* 1401, ex-*LCT*(*E*) 341)

Displacement:	350 tons *standard* (586 tons *full load*)
Dimentsions:	187¼ × 38¾ × 3½ (*forward*), 4½ (*aft*) feet
Guns:	Removed
Machinery:	Dismantled
Complement:	30

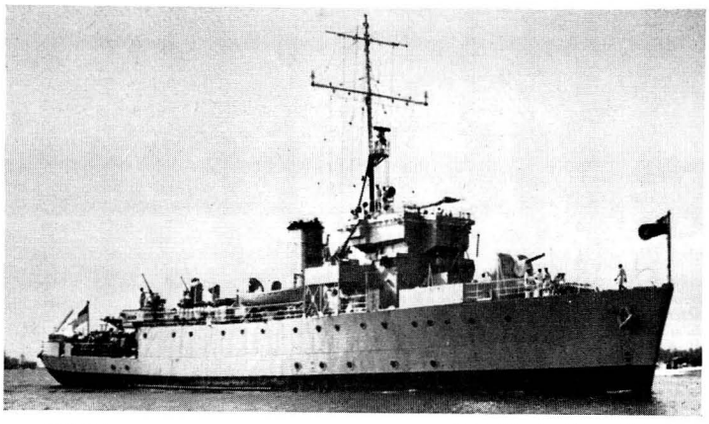
General Notes

Landing craft of the LCT(4) type. Originally loaned by Great Britain to the Royal Malayan Navy, and given her present name in Oct. 1958 after the Royal Malayan Navy was transferred to the Government of the Federation of Malaya. Now employed as a forward maintenance repair craft based at Woodlands, Singapore.

Recent Disposa s

The landing craft *Sri Perlis* (ex-H.M.S. *Pelandok*, ex-*LCG*(*L*) 450), and the trawler type controlled minelayer *Sri Johor* (ex-H.M.M.S. *Penyu*, ex-H.M.S. *Dabchick*, ex-*Thorney*) were paid off in 1959 and sold.

NIGERIA



NIGERIA *1960, Nigerian Navy, Official*

NIGERIA (*ex*-H.M.S. *Hare*)

Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 × 35½ × 10 feet
Guns:	1—4 inch, 4—40 mm. Bofors AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 2,000=16·5 kts.
Boilers:	2 of three-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts
Complement:	100

Notes

Former British ocean minesweeper of the " Algerine " class. Built by Harland & Wolff Ltd., Belfast. Laid down on 27 Nov. 1943. Launched on 20 June 1944. Completed on 10 Nov. 1944. Pennant No. M 389. Transferred from the Royal Navy to the Royal Nigerian Navy on 21 July 1959 and renamed *Nigeria*.

General Notes

There were 45 officers and 510 ratings in the Royal Nigerian Navy in 1960; but this figure is to be increased to a target total of 3,CC0 personnel as opportunity offers.

New Construction

A contract was placed with Camper and Nicholsons, Gosport, in 1960 for a new seaward defence boat of the " Ford " class. Delivery expected in Aug. 1961.

KADUNA (ex-*SDML* 3515)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	1—20 mm. AA.
A/S weapons:	4 depth charges
Machinery:	2 Gardner diesels. 2 shafts. B.H.P.: 260 to 320=11 to 12 kts.
Complement:	11 to 14

Seaward defence motor launch. Presented to the Royal Nigerian Navy at Portsmouth on 21 July 1959. Pennant No. P 07.

CALABAR (ex-*MSML* 2223) **SAPELE** (ex-*MSML* 2217)

Displacement:	85 tons
Dimensions:	112 (*o.a.*) × 18¼ × 5 feet
Guns:	1—20 mm. AA.
Machinery:	2 Hall Scott Defender engines B.H.P.: 1,200=20 kts. Sea speed 15·5 kts.
Complement:	16 to 18

Minesweeping motor launches. Purchased from the Royal Navy in 1959. Pennant Nos. P 09 and P 08.

LCT 1312

Displacement:	350 tons *standard* (586 tons *full load*)
Dimensions:	187¼ × 38¾ × 4½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Paxman diesels. B.H.P.: 920=10 kts.
Complement:	13

Landing craft of the LCT(4) type. Purchased from the Royal Navy in 1959.

PATHFINDER

Measurement:	544 tons *gross*
Dimensions:	154¼ × 27 × 11 feet
Guns:	1—40 mm. AA.
Machinery:	2 sets Triple Expansion engines. I.H.P.: 200=3 kts.
Complement:	42

Built by J. Samuel White & Co. Ltd., Cowes, in 1954. Pennant No. P 06. Surveying ship.

PENELOPE

Measurement:	79 tons *gross*
Dimensions:	79½ × 7¾ × 4½ feet
Machinery:	2 Gardner diesels. Speed 10 kts.
Complement:	15

Built by Aldous Successors, Brightlingsea, in 1959. Pennant No. P 11. Employed on Surveying duties.

CHALLENGER

Measurement:	114 tons *gross*
Dimensions:	110½ × 18½ × 5 feet
Machinery:	3 Gleniffer diesels. Speed 13 kts.

Built by Aldous Successors, Brightlingsea, in 1955. Pennant No. P. 19 Employed on Customs preventive duties.

VALIANT

A shallow draught yacht used by His Excellency The Governor General for touring in the inland waterways of Nigeria. Built by Yarrow & Co. Ltd., Scotstoun, Glasgow. 280 tons *gross*, 135¼ (*o.a.*) × 29 × 4½ feet, 2—3 pdr. saluting guns, 2 sets 3 cylinder triple expansion reciprocating engines, I.H.P.: 450=9 kts., complement 27.

ROYAL NEW ZEALAND NAVY

Naval Board

Chairman: The Hon. P. G. Connolly, D.S.C., V.R.D., M.P.

First Naval Member and Chief of Naval Staff: Rear Admiral P. Phipps, D.S.C. and Bar, V.R.D.

Second Naval Member (Personnel): Commodore L. S. Stanners, O.B.E.

Third Naval Member (Supply): Commodore E. A. G. Whittle, C.B.E., M.I.Mar.E.

Navy Secretary: Mr. D. A. Wraight.

Administration

Commander-in-Chief: H.E. The Right Hon. Charles John, Viscount Cobham, G.C.M.G., T.D.

Royal New Zealand Naval Liaison Officer, London: Captain F. N. F. Johnston, D.S.C., R.N.Z.N.

Personnel

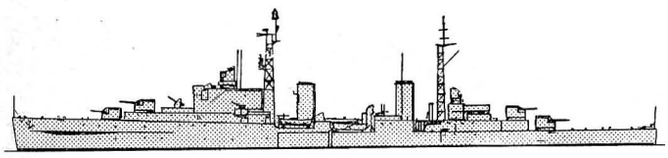
January 1958: 2,924 officers and ratings
January 1959: 3,030 officers and ratings
January 1960: 2,886 officers and ratings

Mercantile Marine

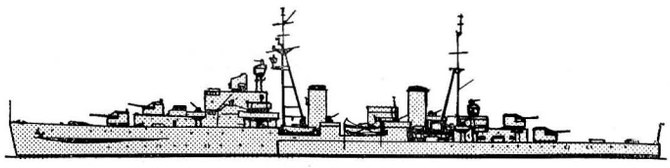
Lloyd's Register of Shipping:
161 vessels of 258,783 tons *gross*

Silhouettes

Scale: 150 ft. = 1 inch



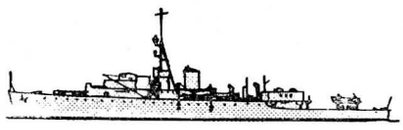
ROYALIST



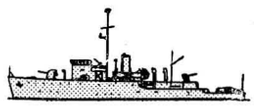
BLACK PRINCE



"LOCH" *Class*



LACHLAN



"BATHURST" *Class*

CRUISERS

2 Improved "Dido" Class

	BLACK PRINCE	ROYALIST
Name:	*Black Prince*	*Royalist*
Pennant No.:	C 81	C 89
Builders and Engineers:	Harland & Wolff Ltd., Belfast	Scotts' S.B. & Eng. Co., Ltd. Greenock
Laid down:	2 Nov. 1939	21 May 1940
Launched:	27 Aug. 1942	30 May 1942
Completed:	20 Nov. 1943	10 Sep. 1943

Displacement:	5,900 tons *standard* (7,410 tons and 7,360 tons *full load* respectively)
Dimensions:	Length: 512 (*o.a.*) feet. Beam: 52 feet. Draught: 15 (*mean*), 18½ (*max.*) feet
Guns:	*Black Prince:* 8—5·25 inch d.p., 10—40 mm., 4—3 pdr. (saluting) *Royalist:* 8—5·25 inch d.p., 8—40 mm. Bofors AA.
Tubes:	6—21 inch (tripled) in *Black Prince*
Armour:	2" side, 2" turrets
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 62,000 = 32 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	550 (*peace*)

General Notes

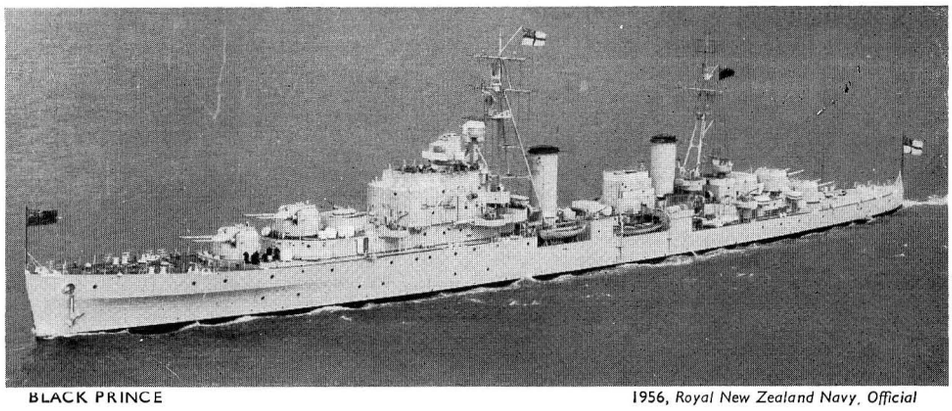
Built under War Estimates. Sister ships of *Diadem* in the Pakistan Navy. Both these ships are lent by the Admiralty to the New Zealand Government, who pay for their annual maintenance. *Royalist* was reconstructed and modernised in Great Britain; she completed her refit in 1956, being re-commissioned on 10 April 1956 at H.M. Dockyard, Devonport. She has new bridge of rounded form, new lattice masts, the latest gun direction equipment and air and surface radar. She was the flagship of the Royal New Zealand Navy, but now wears the pennant of the Senior Officer Afloat.

Transfer Notes

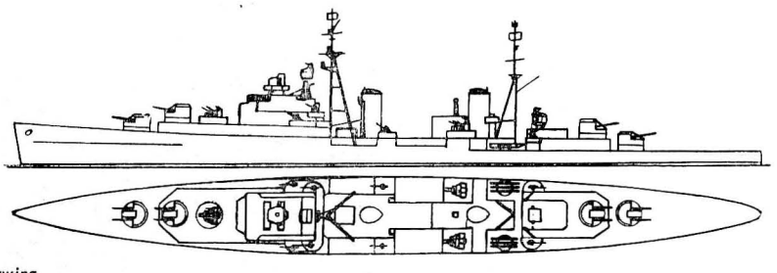
Black Prince was lent to New Zealand in 1946. *Royalist* was formally handed over to the Royal New Zealand Navy on 9 July 1956, and left for New Zealand late in 1956, arriving at Auckland in Dec. 1956.

Photograph Notes

A large port bow oblique aerial view of *Royalist* appears in the 1957-58 to 1959-60 editions. A port broadside view of *Royalist* appears in the 1956-57 edition. A port broadside view of *Black Prince* appears in the 1954-55 and 1955-56 editions.

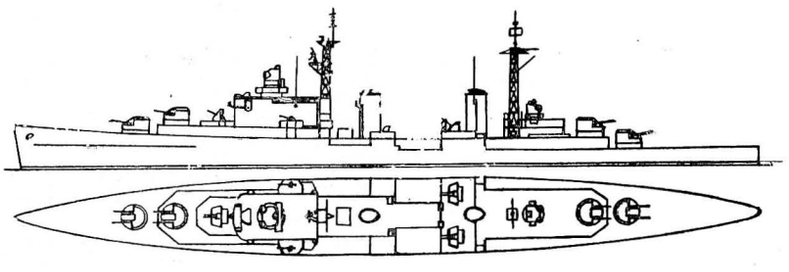


BLACK PRINCE 1956, *Royal New Zealand Navy, Official*



Notes to Drawing

Port elevation and plan of *Black Prince*. Drawn in 1957. No 2 pdr. or 20 mm. AA. guns are now carried. Scale: 128 feet = 1 inch



Notes to Drawing

Port elevation and plan of *Royalist*. Reconstructed with two lattice masts. Drawn in 1957. Scale: 128 feet = 1 inch.

Cruisers—*continued*

2 Improved " Dido " Class—*continued*



ROYALIST — 1960, *Royal New Zealand Navy, Official*

ANTI-SUBMARINE FRIGATES

New Construction
2 + 2 " Whitby " Class. Type 12
1st Rate (*Anti-Submarine Quality Type*)

OTAGO (ex-*Hastings*) **TARANAKI**

Displacement:	2,144 tons *standard* (2,557 tons *full load*)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch, 2—40 mm. AA.
Tubes:	12—21 inch (8 single A/S, two twin)
A/S weapons:	2 Limbo three barrelled depth charge mortars
Machinery:	2 sets double reduction geared steam turbines. 2shafts. S.H.P.: 30,430=over 30 kts.
Boilers:	2 Babcock & Wilcox
Complement:	219

The Admiralty acting on behalf of the New Zealand Government ordered a "Whitby" class anti-submarine frigate (*Taranaki*) from the Isle of Wight shipyard of J. Samuel White & Co. Ltd., Cowes (announced by the firm 22 Feb. 1957). A sister ship (*Otago*) was ordered for the Royal New Zealand Navy from the Southampton shipyard of John I. Thornycroft & Co. Ltd., Woolston, (officially stated 26 Feb. 1957, New Zealand having taken over the contract for the "Whitby" class anti-submarine frigate *Hastings*, originally ordered in Feb. 1956 for the Royal Navy). These vessels will be generally similar to those building for service in the British Navy, but will have modified accommodation to suit New Zealand conditions. The *Otago* was launched on 11 Dec. 1958, and commissioned on 22 June 1960, and the *Taranaki* was launched on 19 Aug. 1959.



OTAGO — 1960, *Wright & Logan*

FRIGATES

6 " Loch " Class
2nd Rate (*Anti-Submarine Escort Type*)

HAWEA (ex-*Loch Eck*) **ROTOITI** (ex-*Loch Katrine*)
KANIERE (ex-*Loch Achray*) **TAUPO** (ex-*Loch Shin*)
PUKAKI (ex-*Loch Achanalt*, ex-*Naver*) **TUTIRA** (ex-*Loch Morlich*)

Displacement:	1,435 tons *standard* (2,260 tons *full load*)
Dimensions:	286 (*pp.*), 307½ (*o.a.*) × 38⅔ × 12 (*mean*), 14¼ (*max.*) feet, deep load
Guns:	1—4 inch, 4—2 pdr. pompoms, 6—20 mm. AA.
A/S weapons:	2 squid triple-barrelled depth charge mortars
Machinery:	Vertical reciprocating 4-cylinder triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	724 tons
Complement:	114

Notes

Purchased from Great Britain in 1948, and renamed after New Zealand lakes. The six ships constitute the 11th Frigate Squadron



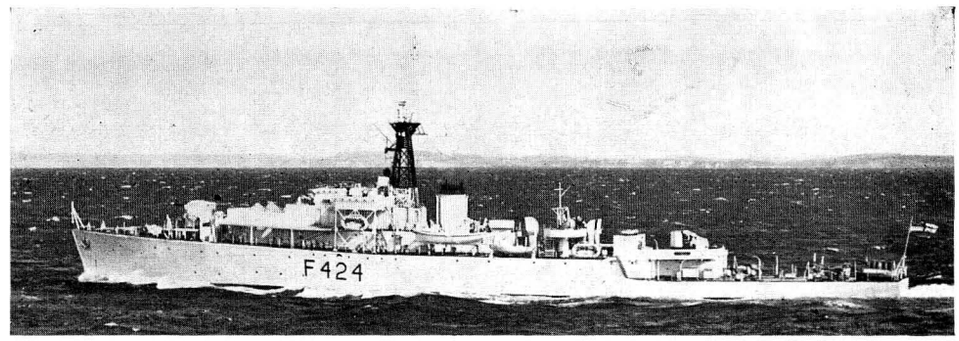
ROTOITI — 1958, *Royal New Zealand Navy, Official*

Frigates—*continued*

6 "Loch" Class—*continued*

Pennant No.	*Name*	*Builders*
F 422	*Hawea*	Smith's Dock Co. Ltd., South Bank-on-Tees
F 426	*Kaniere*	Smith's Dock Co. Ltd., South Bank-on-Tees
F 424	*Pukaki*	Henry Robb, Ltd., Leith
F 625	*Rotoiti*	Henry Robb, Ltd., Leith
F 421	*Taupo*	Swan, Hunter & Wigham Richardson, Ltd., Tyne
F 517	*Tutira*	Swan, Hunter & Wigham Richardson, Ltd., Tyne

Name	*Laid down*	*Launched*	*Completed*
Hawea	25 Oct. 1943	25 Apr. 1944	7 Nov. 1944
Kaniere	13 Dec. 1943	7 July 1944	1 Feb. 1945
Pukaki	14 Sep. 1943	2? Mar. 1944	11 Aug. 1944
Rotoiti	31 Dec. 1943	21 Aug. 1944	29 Dec. 1944
Taupo	6 Sep. 1943	23 Feb. 1944	10 Oct. 1944
Tutira	15 July 1943	25 Jan. 1944	2 Aug. 1944



PUKAKI

1956, *Royal New Zealand Navy, Official*

ESCORT MINESWEEPERS

4 "Bathurst" Class

ECHUCA **KIAMA**
INVERELL **STAWELL**

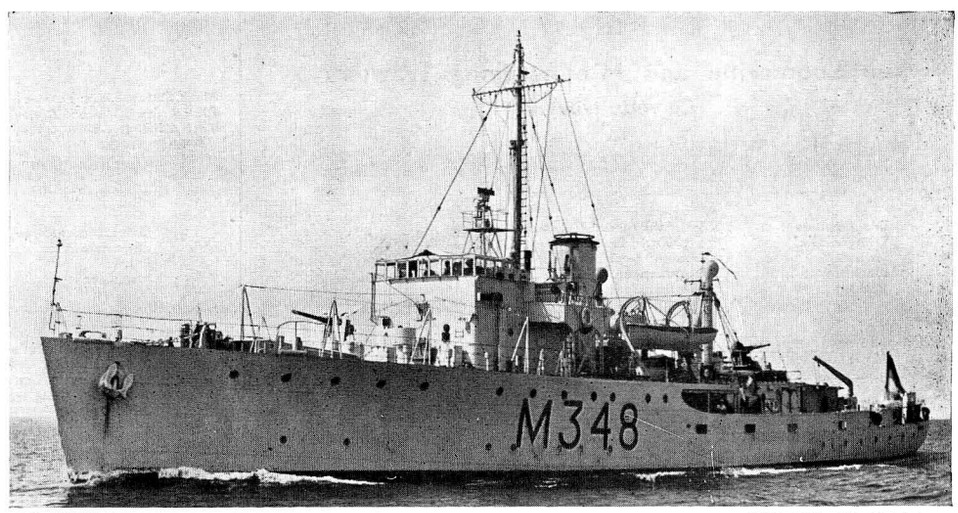
Displacement:	790 tons *standard* (1,025 tons *full load*)
Dimensions:	186 (*o.a.*), 162 (*pp.*) × 31 × 8½ (*mean*) feet
Guns:	1—4 inch, 1—40 mm. AA., 6 M.G. (see notes)
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,800=15 kts.
Boilers:	2 Admiralty 3-drum small tube type
Complement:	85

Notes

These four vessels were given to New Zealand by Australia in 1952. *Stawell*, which has undergone a refit, the 4 inch gun having been replaced by a 12-pounder, is commissioned as a training ship, mainly for reservists, in place of *Tui*, see next page.

Pennant No.	*Name*	*Builders*
M 252	*Echuca*	Williamstown Naval Dockyard, Melbourne
M 233	*Inverell*	Mort's Dock, Sydney
M 353	*Kiama*	Evans Deakins, Brisbane
M 348	*Stawell*	Williamstown Naval Dockyard, Melbourne

Name	*Laid down*	*Launched*	*Completed*
Echuca	22 Feb. 1941	17 Jan. 1942	17 Jan. 1943
Inverell	7 Dec. 1941	2 May 1942	2 May 1943
Kiama	2 Nov. 1942	3 July 1943	26 Jan. 1944
Stawell	18 June 1942	3 Apr. 1943	7 Aug. 1943



STAWELL

1956, *R.N.Z.N., Official*

ANTARCTIC SUPPORT SHIP (*Netlayer*)

1 AN Type

ENDEAVOUR (ex-*John Biscoe*, ex-*Pretext*, ex-*AN 76*)

Displacement:	1,275 tons *standard* (1,460 tons *full load*)
Measurement:	878 tons *net*, *ca* 1,000 tons *gross*
Dimensions:	169½ (*w.l.*), 194½ (*o.a.*) × 37 × 13½ (*max.*) feet
Machinery:	Diesel-electric. 1 shaft. S.H.P.: 1,200=12 kts.

General Notes

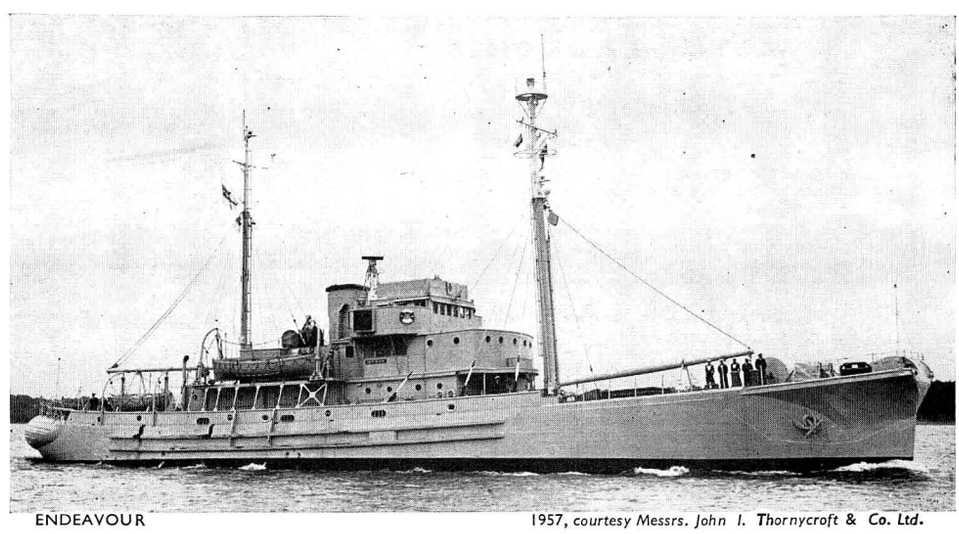
Built in the United States as netlayer *AN 76*. Transferred to Great Britain under the Lend-Lease Act on 6 Aug. 1944 as the boom defence vessel *Pretext*.

Conversion Notes

Converted after the Second World War into the Falkland Islands Dependencies Survey Ship the *John Biscoe*. Purchased by the New Zealand Government in 1956 and refitted at the Southampton shipyard of John I. Thornycroft & Co. Ltd., Woolston, for the Transantarctic Expedition commissioning in the Royal New Zealand Navy on 15 Aug. as *Endeavour*.

Construction Notes

Built of wood, but specially strengthened for navigation in ice, her stem being of solid steel.



ENDEAVOUR

1957, *courtesy Messrs. John I. Thornycroft & Co. Ltd.*

SURVEY SHIP (Frigate)

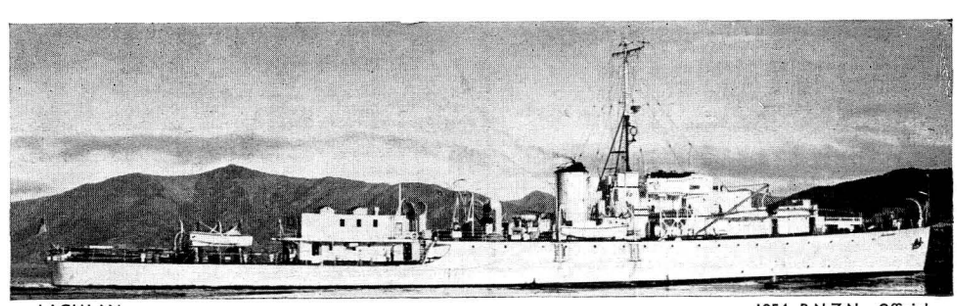
1 "River" Class

LACHLAN

Pennant No.:	F 364
Builders:	Mort's Dock, Sydney
Launched:	25 Mar. 1944
Displacement:	1,420 tons *standard* (2,220 tons *full load*)
Dimensions:	301⅓ × 36⅔ × 12 feet
Guns:	Removed
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	140

Notes

Australian "River" class frigate. Lent by the Royal Australian Navy for hydrographic survey work and oceanographic research.



LACHLAN

1954 *R.N.Z.N., Official*

PATROL VESSELS



KIWI — *R.N.Z.N., Official*

Anti-Submarine and Minesweeping Trawlers

(Corvette type)

2 " Bird " Class

KIWI **TUI**

Displacement:	600 tons *standard* (825 tons *full load*)
Dimensions:	156 × 30 × 14 feet
Guns:	1—4 inch, 1—2 pdr., 4 M.G.
Machinery:	Triple expansion. I.H.P.: 1,000=14 kts.
Boiler:	1 cylindrical

Notes

Both of corvette type. Engined by Plenty & Son. *Kiwi* formerly employed as a training ship, mainly for reservists, was placed in reserve on 20 Dec. 1956. *Tui* is commissioned as a Fleet Auxiliary for duties in Oceangraphical Research.

Name:	*Kiwi*	*Tui*
Pennant No.:	P 102	P 33
Builders:	Henry Robb Ltd., Leith	Henry Robb, Ltd., Leith
Laid down:	19 Mar. 1940	19 Mar. 1940
Launched:	7 July 1941	26 Aug. 1941
Completed:	28 Oct. 1941	5 Dec. 1941

Recent Disposals

All four of the " Scottish Isles " class minesweeping trawlers *Inchkeith*, *Killegray*, *Sanda* and *Scarba*, were declared surplus to naval requirements and offered for sale in 1958.

MOTOR LAUNCHES

2 Fairmile "B" Type

IRIS MOANA **KAHU** P 3571

Displacement:	85 tons
Dimensions:	112 × 18¼ × 5 feet

Notes

112-foot Fairmile, Type " B " motor launches converted as local naval transports (harbour craft) for passenger carrying. Attached to H.M.N.Z.S. *Tamaki*, the New Entry Training Establishment at Auckland.

STORES CARRIERS

COASTGUARD **LANDER I**

Notes

Both are Tenders employed as naval stores carriers at Auckland.

ISA LEI

Dimensions:	Length: 114 feet
Machinery:	Diesel

Notes

This vessel was purchased by the Royal New Zealand Navy during 1952. Motor ship used as a stores and ammunition carrier at Auckland. Classed as a Fleet Auxiliary.

SEAWARD PATROL CRAFT



MAKO — 1958, *Royal New Zealand Navy, Official*

12 HDML Type

MAKO (ex-*SDML* 3551, ex-*Q* 1183)
PAEA (ex-*SDML* 3552, ex-*Q* 1184)
TAKAPU (ex-*SDML* 3556, ex-*Q* 1188)
TARAPUNGA (ex-*SDML* 3566, ex-*Q* 1187)
VITI (ex-*SDML* 3555, ex-*Q* 1193)
SDML 3553 (ex-*Q* 1191)
SDML 3554 (ex-*Q* 1192)
SDML 3561 (ex-*Q* 1194)
SDML 3562 (ex-*Q* 1190)
SDML 3563 (ex-*Q* 1348)
SDML 3564 (ex-*Q* 1350)
SDML 3565 (ex-*Q* 1397)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5⅓ feet
Guns:	1—20 mm. AA., several MG. (not fitted at present)
Machinery:	Diesel. 2 shafts. B.H.P.: 320=12 kts.

Notes

Originally known as Harbour Defence Motor Launches. All built in various yards in the United States and Canada and shipped to New Zealand. *SDMLs Takapu* and *Tarapunga* are commissioned as surveying MLs, and operate with *Lachlan*. *SDMLs Mako* and *Paea* have been converted with lattice masts surmounted by a radar aerial, and are employed on fishery protection duties. *Viti* is attached to the newly formed Fiji Naval Volunteer Reserve. SDML 3565 is American built.

TENDERS

HAURAKI (ex-*Endeavour*)

Dimensions: Length: 79 feet

Notes

Powered scow. Used for lighthouse servicing. Renamed when the Antarctic Survey Ship *Endeavour* (ex-*John Biscoe*) was purchased and commissioned in 1956.

TAIHOA

Dimensions: Length: 50 feet

Notes

Motor boat used for harbour duties.

TE ATU

Dimensions: Length: 65 feet

Notes

Fuel lighter used as a harbour diesel carrier.

HARBOUR TUGS

ARATAKI **MANAWANUI**

Dimensions:	Length: 75 feet
Machinery:	Diesel

Notes

Steel tugs. *Arataki* used as a dockyard tug. *Manawanui* used as a diving tender.

HIPI

Dimensions: Length: 56 feet

Notes

Motor tow boat used as a dockyard tug. The fleet tug *Toia* was declared surplus and sold in 1955.

EAST AFRICA

Inshore Minesweeper

BASSINGHAM

Notes

Transferred from the Royal Navy to the Royal East African Navy on 25 June 1958. For full particulars see under " Ham " class in Great Britain section, page 47

Minesweeping Trawler

ROSALIND

Notes

On loan to the Royal East African Navy as a training ship, but is now nearing the end of her useful life. At Mombasa. See full particulars under Trawlers in Great Britain section, page 50.

General Notes

There are also *MFV* 206 and *Mvita*, base ship, at Kilindini.

GHANA

Inshore Minesweepers

AFADZATO (ex-*Ottringham*) **YOGADA** (ex-*Malham*)

Notes

Malham, commissioned on 2 Oct. 1959, and *Ottringham*, commissioned on 30 Oct. 1959, sailed for *Ghana* on 31 Oct. 1959, and were officially transferred from the Royal Navy to the Ghana Navy at Takoradi at the end of November 1959 and renamed.

For full particulars see under " Ham " class in Great Britain section, page 47.

General Notes

There is also *Radiant*, a 180 ft yacht of 525 tons purchased in July 1959 from a British owner to be used to entertain distinguished foreign visitors.

Personnel

500 officers and men (planned).

HONG KONG

Inshore Minesweepers

CARDINGHAM **ETCHINGHAM**

Notes

Transferred from the Royal Navy to the Hong Kong Royal Naval Volunteer Reserve in 1959. For full particulars see under " Ham " class in Great Britain section, page 47.

Seaward Defence Motor Launch Notes

SDML 1323, SDML 1326, SDML 1328 and SDML 1329 were returned to the Royal Australian Navy in 1958 from Hong Kong where they had been lent to the Royal Navy, and were transferred to the Philippine Navy in 1959.

SDML 3503, SDML 3510, SDML 3511, SDML 3512, SDML 3513 and SDML 3514 were sold or otherwise disposed of.

PAKISTAN

Administration

Commander-in-Chief, Pakistan Navy, and Chief of Naval Staff:
Rear-Admiral A. R. Khan, S.Q.A., P.N.

Chief of Staff to C.-in-C., P.N.:
Commodore S. M. Ahsan, S.Q.A., D.S.C., P.N.

Commodore Commanding P.N. Flotilla:
Commodore A. P. W. Northey, D.S.C. and Two Bars, R.N.

Deputy Chief of Naval Staff:
Commander Rachid Ahmad, P.N.

Deputy Chief of Naval Staff (Personnel):
Captain Muzaffar Hasan, P.N.

Deputy Chief of Naval Staff (Technical Services):
Captain S. Z. Husnain, P.N.

Deputy Chief of Naval Staff (Supply Services):
Captain A. Hameed, P.N.

Naval Adviser and Naval Liaison Officer, London:
Commander M. A. K. Lodi, P.N.

Personnel

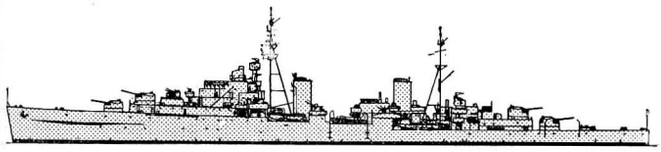
1960: 660 officers; 6,600 ratings

Mercantile Marine

Lloyd's Register of Shipping:
62 vessels of 179,251 tons *gross*

Silhouettes

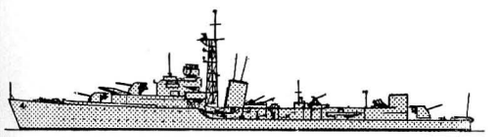
Scale : 150 ft. = 1 inch.



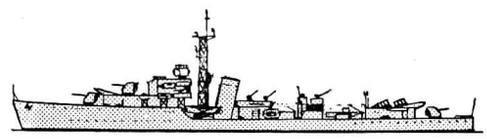
BABUR



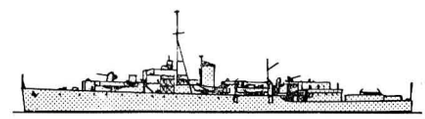
BADR, KHAIBAR



ALAMGIR, JAHANGIR

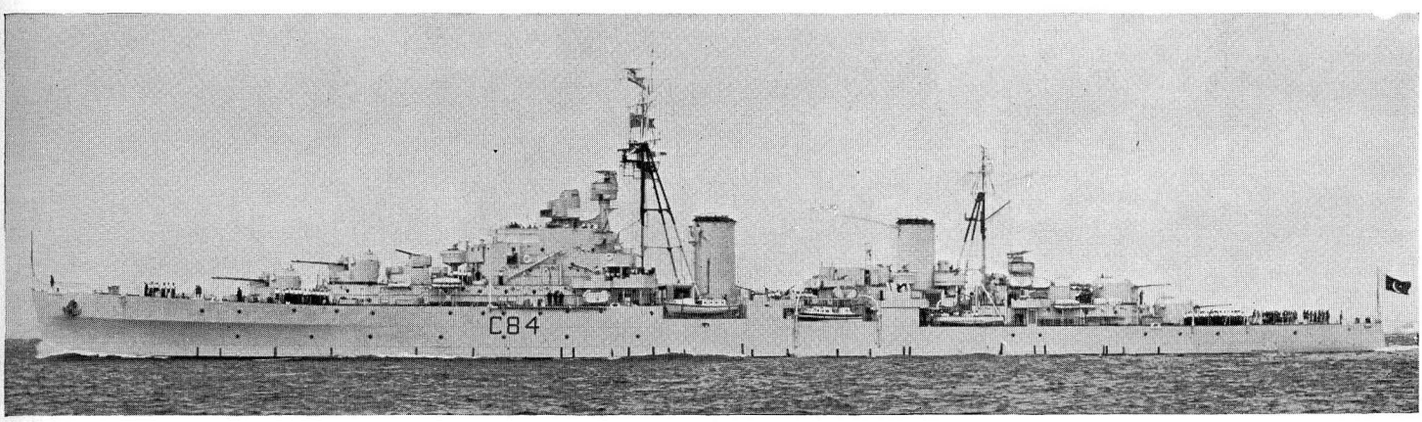


SHAH JAHAN, TAIMUR



ZULFIQUAR

CRUISER



BABUR (see next page)

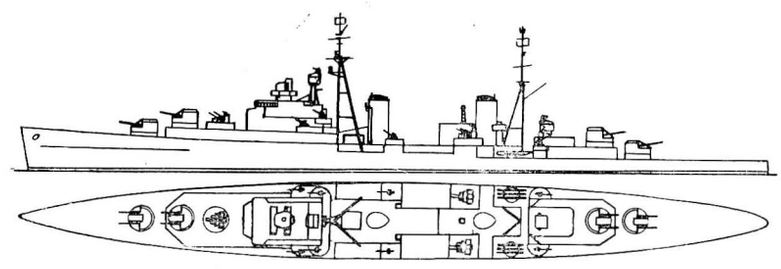
1957, *Wright & Logan*

1 Improved "Dido" Class

BABUR (ex-H.M.S *Diadem*)

Pennant No.:	C 84
Builders and Engineers:	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	15 Nov. 1939
Launched:	26 Aug. 1942
Completed:	6 Jan. 1944

Displacement:	5,900 tons *standard* (7,560 tons *full load*)
Dimensions:	Length: 512 eet (*o.a.*). Beam: 52 feet. Draught: 15 feet (*mean*), 18½ (*max.*) feet
Guns:	8—5·25 inch AA., 14—40 mm. AA, 4—3 pdr.
Tubes:	6—21 inch (tripled)
Armour:	2 inch side, 2 inch turrets
Machinery:	Parsons single reduction geared turbines. 4 shafts. S.H.P.: 62,000= 32 kts.
Boilers:	4 Admiralty 3-drum type
Complement:	588 (peace)



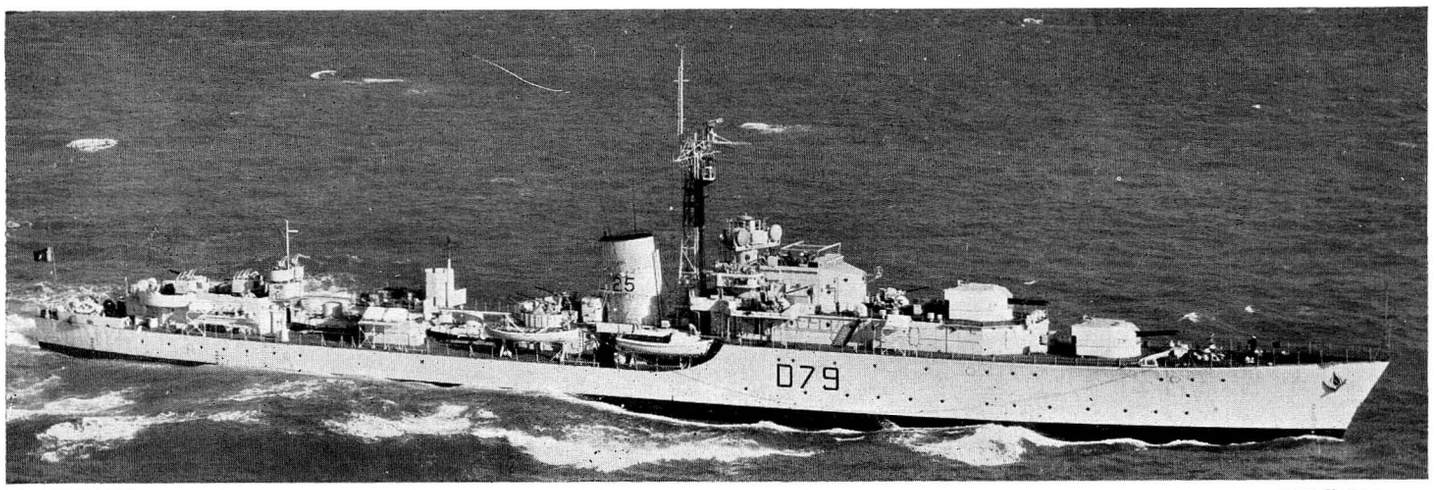
Note to Drawing
Port elevation and plan. Scale: 128 feet=1 inch.

General Notes
Former British anti-aircraft light cruiser built under the Second World War estimates. The Admiralty announced on 29 Feb. 1956 the sale of this ship to Pakistan. Refitted at H.M. Dockyard, Portsmouth in 1957, with new radar, two whip aerials on bridge, etc., revised secondary armament. Officially turned over from the Royal Navy to the Pakistan Navy and renamed *Babur* at Portsmouth on 5 July, 1957.

Class Notes
Originally a sister ship of the *Black Prince* and *Royalist* in the Royal New Zealand Navy.

Nomenclature Notes
Renamed after Babur, the founder of the great Mogul Empire. (*Diadem* means the emblem of sovereignty.)

DESTROYERS



KHAIBAR

1957, *Skyfotos*

2 " Battle " Class

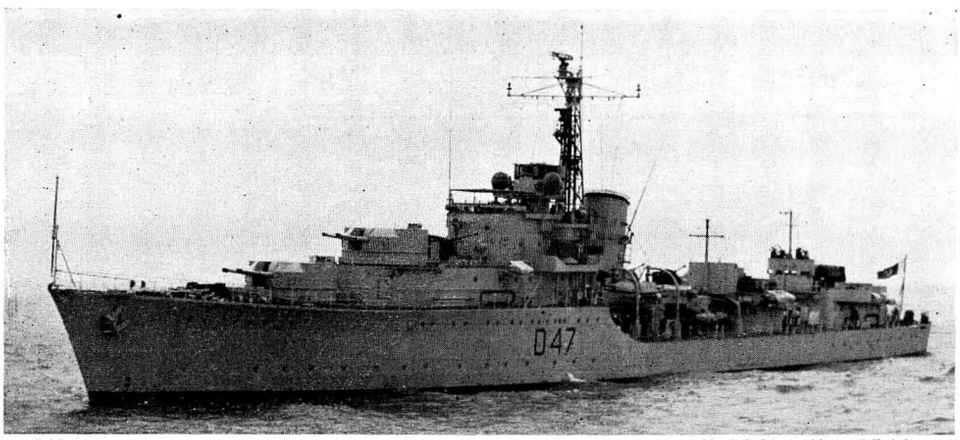
BADR (ex-H.M.S. *Gabbard*)
KHAIBAR (ex-H.M.S. *Cadiz*)

Name:	*Badr*	*Khaibar*
Pennant No.:	D 47	D 79
Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne.	Fairfield Shipbuilding & Engineering Co. Ltd., Govan, Glasgow.
Laid down:	2 Feb. 1944	10 May 1943
Launched:	16 Mar. 1945	16 Sep. 1944
Completed:	10 Dec. 1946	12 Apr. 1946

Displacement: 2,325 tons *standard* (3,255 tons *full load*)
Dimensions: 355 (*pp.*), 379 (*o.a.*) × 40¼ × 12¾ (*mean*), 17 (*max.*) feet
Guns: 4—4·5 inch, 10—40 mm. AA.
Tubes: 8—21 inch (quadrupled)
A/S weapons: Squid three-barrelled depth charge mortar
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 50,000=35·75 kts. (designed) 31 kts. sea speed
Boilers: 2 Admiralty 3-drum type

Notes

Admiralty announced 29 Feb. 1956 the sale of these two destroyers to Pakistan. Refitted and modernised in Great Britain with funds made available by the United States under the Mutual Defense Assistance Program.



BADR

1957, *Pakistan Navy, Official*

Badr was refitted at Palmers Hebburn, Yarrow, handed over to the Pakistan Navy on 24 Jan. 1957, and sailed from Portsmouth for Karachi on 17 Feb. 1957.

Khaibar was refitted at Alex. Stephen & Sons, Ltd., Govan, Glasgow, handed over to the Pakistan Navy on 1 Feb. 1957 and renamed *Khaibar* in commemoration of a famous battle in the history of Islam which Mohammed won in Arabia over 1,100 years ago.

2 " Cr " Class

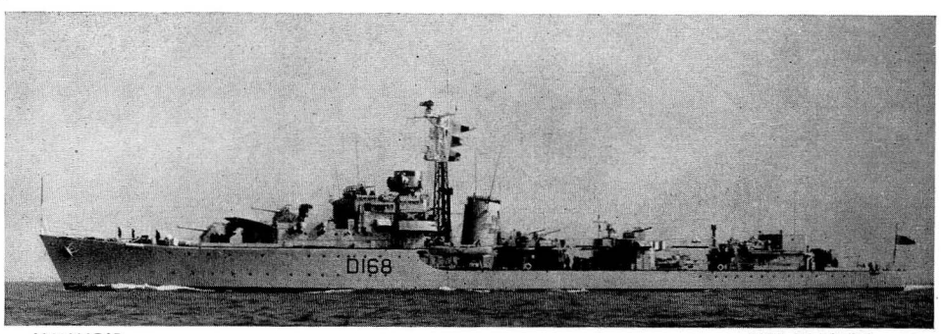
ALAMGIR (ex-H.M.S. *Creole*)
JAHANGIR (ex-H.M.S. *Crispin*, ex-*Craccher*)

Name:	*Alamgir*	*Jahangir*
Pennant No.:	D 82	D 168
Builders:	J. Samuel White & Co. Ltd., Cowes	J. Samuel White & Co. Ltd., Cowes
Laid down:	3 Aug. 1944	1 Feb. 1944
Launched:	22 Nov. 1945	23 June 1945
Completed:	14 Oct. 1946	10 July 1946

Displacement: 1,730 tons *standard* (2,560 tons *full load*)
Dimensions: 362¾ × 35¾ × 10 (*mean*), 16 (*max.*) feet
Guns: 3—4·5 inch, 6—40 mm. AA.
Tubes: 4—21 inch (quadrupled)
A/S weapons: 2 Squid triple barrelled depth charge mortars
Machinery: Parson geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (*designed*), 31·25 kts. (sea speed)
Boilers: 2 Admiralty 3-drum type
Complement: 200

Notes

The Admiralty announced on 29 Feb. 1956 the sale of these two destroyers to Pakistan. They were refitted and modernised in Great Britain by John I. Thornycroft & Co. Ltd., Woolston, Southampton, in 1957-58 with funds made available by the United States under the Mutual Defense Assistance Program. They formerly had a W/T cabin in place of "B" gun and a gun in "X" position but during the refit before joining the Pakistan Navy the 4·5 inch gun was restored to " B " position, the 4·5 inch gun in " X " position was suppressed, and two Squids substituted.



JAHANGIR

1958, *Wright & Logan*

Crispin was turned over to the Pakistan Navy at Southampton on 18 March 1958 and renamed *Jahangir*.

Creole was turned over at Southampton in 1958 and renamed *Alamgir*.

2 " Ch " Class

SHAH JAHAN (ex-H.M.S. *Charity*)
TAIMUR (ex-H.M.S. *Chivalrous*)

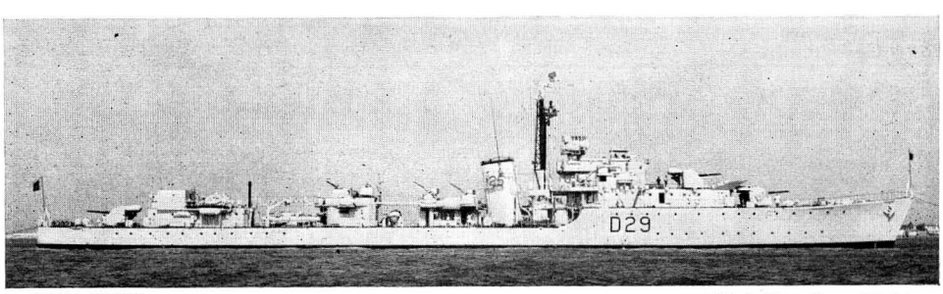
Name:	*Shah Jahan*	*Taimur*
Pennant No.:	D 29	D 21
Builders:	John I. Thornycroft & Co. Ltd., Woolston, Southampton	Wm. Denny & Bros. Ltd., Dumbarton
Laid down:	9 July 1943	27 Nov. 1943
Launched:	30 Nov. 1944	3 Aug. 1945
Completed:	19 Nov. 1945	13 May 1946

Displacement: 1,710 tons *standard* (2,545 tons *full load*)
Dimensions: 362¾ × 35¾ × 10 (*mean*), 16 (*max.*) feet
Guns: 3—4·5 inch, 6—40 mm. AA.
Tubes: 4—21 inch (quadrupled)
A/S weapons: 2 Squid triple-barrelled depth charge mortars
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (*designed*), 31·25 kts. (*sea speed*)
Boilers: 2 Admiralty 3-drum type
Complement: 200

Notes

The Admiralty announced on 22 Oct. 1953 arrangements to lend H.M.S. *Chivalrous* to the Pakistan Navy for three years, subject to extension by agreement, the vessel to be returned on request in emergency. She was refitted on Merseyside at the expense of the Pakistani Government and taken over at Liverpool on 29 June, 1954.

H.M.S. *Charity* was purchased from the Admiralty by the U.S.A. and, under the Mutual Defense Assistance Program, handed over to the Pakistan Navy on 16 Dec. 1958 at the shipyard of J. Samuel White & Co. Ltd., Cowes, Isle of Wight, who refitted her, and renamed *Shah Jahan* (" Emperor of the World ") after the Fifth Emperor of the Nughal Dynasty who was the ruler at the height of the prosperity of the Nughal Empire.



SHAH JAHAN

1959, *Pakistan Navy, Official*

Photograph Notes

A photograph of *Taimur* appears in the 1957-58 to 1959-60 editions.

FAST ANTI-SUBMARINE FRIGATES (*ex-Destroyers*)

2 " O " Class
Limited Conversion, Type 16

TIPPU SULTAN (ex-H.M.S. *Onslow*, ex-*Pakenham*)
TUGHRIL (ex-H.M.S. *Onslaught*, ex-*Pathfinder*)

Name	*Tippu Sultan*	*Tughril*
Pennant No.	F 249	F 204
Builders	John Brown & Co. Ltd., Clydebank	Fairfield S.B. & Eng. Co. Ltd., Glasgow
Laid down	1 July 1940	14 Jan. 1941
Launched	31 Mar. 1941	9 Oct. 1941
Completed	8 Oct. 1941	19 June 1942

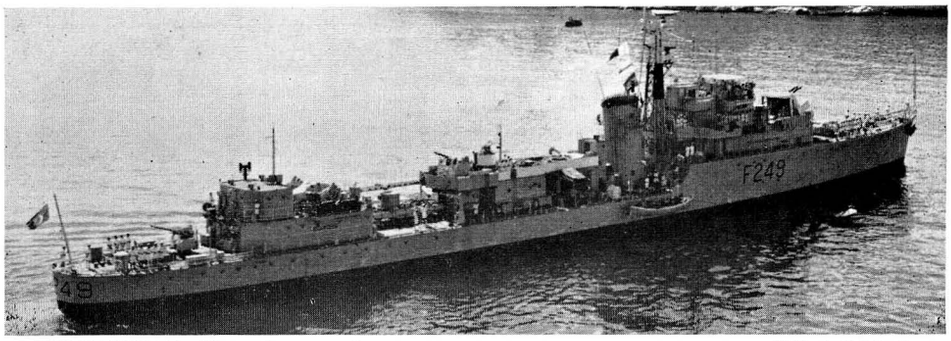
Displacement: 1,800 tons *standard* (2,300 tons *full load*). Revised figures
Dimensions: 338½ (*pp.*), 345 (*o.a.*) × 35 × 9 (*mean*), 15¾ (*max.*) feet
Guns: 2—4 inch, 5—40 mm. AA.
Tubes: 4—21 inch
A/S weapons: 2 Squid triple-barrelled depth charge mortars
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers: 2 Admiralty 3-drum type
Complement: 170

Notes

Originally three " O " class destroyers were acquired from Great Britain, *Tippu Sutlan* being handed over on 30 Sep. 1949; *Tariq* on 3 Nov. 1949; and *Tughril* on 6 Mar. 1951

An agreement was signed in London between the Admiralty and the United States Navy for the refit and conversion in the United Kingdom of the *Tippu Sultan* and the *Tughril* (announced 29 Apr. 1957) with funds provided under the Mutual Security Act of the United States. Pennant Nos. were changed from D 49 and D 204 to F 249 and F 204 respectively, in 1959.

All three ships of this class were scheduled for conversion into fast anti-submarine frigates (limited conversion, Type 16). *Tippu Sultan* and *Tughril* arrived in the United Kingdom in 1957 and were converted at Liverpool by Grayson Rolls & Clover Docks Ltd., Birkenhead, and C. & H. Crighton Ltd., respectively. The *Tariq* was not converted, however. She wes handed back to Great Britain at Portsmouth on 10 July 1959 and prepared for disposal.



TIPPU SULTAN (as frigate after conversion) 1960, *A. & J. Pavia*

FRIGATES

1 " River " Class (Surveying Vessel)

ZULFIQUAR (ex-*Dhanush*, ex-*Deveron*)

Pennant No.: F 265
Builders: Smith's Dock Co. Ltd., South Bank-on-Tees
Laid down: 16 Apr. 1942
Launched: 12 Oct. 1942
Completed: 2 Mar. 1943
Displacement: 1,370 tons *standard* (2,100 ton *full load*)
Dimensions: 301½ (*o.a.*) × 36¾ × 12 feet
Guns: 1—4 inch, 2—40 mm. AA.
Machinery: Triple expansion. I.H.P.: 5,500 = 20 kts.
Boilers: 2 Admiralty 3-drum type
Complement: 150

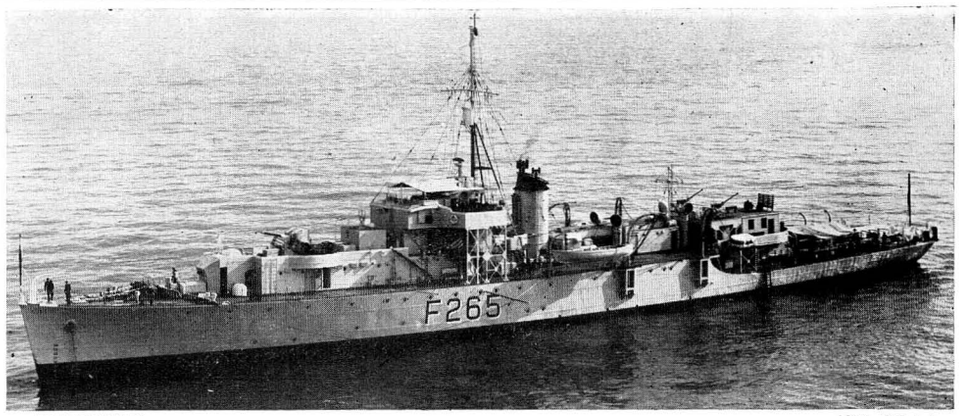
General Notes

Former British " River " class frigate, converted into a surveying ship, with additional charthouse aft. She has strengthened davits and carries survey motor boats. The after 4-inch gun was removed.

Recent Disposals

Sister ship *Shamsher* (ex-*Nadder*) (training ship) of the " River " class was disposed of in 1960.

The two frigates (ex-sloops) of the " Jhelum " class, *Jhelum* (ex-*Narbada*) and *Sind* (ex-*Godavari*) were also officially stricken off in 1960.



ZULFIQUAR 1956, *Official*

The three fleet minesweepers of the " Bangor " class, *Baluchistan* (ex-*Greenock*), *Dacca* (ex-*Oudh*) and *Peshawar* (ex-*Malwa*); and the two minesweeping trawlers of " Isles " class, *Bahawalpur* (ex-*Baroda*, ex-*Lucknow*) and *Lahore* (ex-*Rampur*), were also deleted from the navy list in 1960.

COASTAL MINESWEEPERS



MUHAFIZ 1956, *P.N Official*

6 Ex-U.S. MSC (ex-AMS) Type

MAHMOOD (ex-*MSC* 267)
MUBARAK (ex-*MSC* 262)
MUHAFIZ)ex-*AMS* 138)
MUJAHID (ex-*MSC* 261)
MUKHTAR (ex-*MSC* 274)
MUNSIF (ex-*MSC* 373)

Displacement: 335 tons *light* (375 tons *full load*)
Dimensions: 138 (*pp.*), 144 (*o.a.*) × 27 × 8¼ feet
Guns: 2—20 mm.
Machinery: G.M. diesels. 2 shafts. B.H.P.: 880=14 kts.
Complement: 39

Notes

Mukhtar was transferred with *Munsif* (means justice or fair play) which was transferred and renamed at Seattle on 25 June 1959 having been laid down on 24 Feb. 1958 and launched on 20 June 1958 by Bellingham Shipyard Co., Bellingham, Washington.

Muhafiz was acquired from the United States under the Mutual Defense Assistance Program and commissioned in 1955 (transferred on 25 Feb. 1955). The remaining three coastal minesweepers were acquired from the U.S. under MDAP in 1956-57. (*Mujahid* transferred in Nov. 1956, *Mahmood* in May 1957, *Mubarak* in 1957).

MOTOR MINESWEEPER

1 British MMS Type

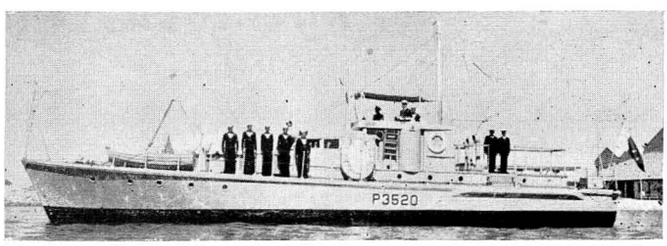
GHAZI (ex-*MMS* 131)

Displacement: 163 tons *standard* (255 tons *full load*)
Dimensions: 105 (*pp.*), 119 (*o.a.*) × 23 × 9½ feet
Guns: 2—20 mm. AA., 2 M.G.
Machinery: Diesel. B.H.P.: 500=10 kts
Complemen: 20

Notes

Former British " 105-ft." smaller motor minesweeper of " 1501 " series. Of wooden construction. Built in 1942-43. Pennant No. M 1631.

SEAWARD DEFENCE MOTOR LAUNCHES



SDML 3520 1957, *P.N., Official*

4 Ex-HDML Type

SDML 3517 (ex-*SDML* 1261)
SDML 3518 (ex-*SDML* 1262)
SDML 3519 (ex-*SDML* 1263)
SDML 3520 (ex-*SDML* 1266)

Displacement: 46 tons *standard* (54 tons *full load*)
Dimensions: 72 (*o.a.*) × 15⅝ × 5½ feet
Guns: 1—3 pdr., 1—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 320=12 kts.
Complement: 14

Notes

Formerly known as Harbour Defence Motor Launches. Re-numbered in 1951.

TUGS

MADADGAR (ex-U.S.S. *Yuma*, ATF 94)

Displacement: 1,235 tons *standard* (1,675 tons *full load*)
Dimensions: 195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Machinery: 4 sets diesels with electric drive. B.H.P.: 3,000=16·5 kts.
Complement: 85

Notes

Ocean-going salvage tug launched on 17 July 1943, and transferred from the United States Navy to the Pakistan Navy on 25 Mar. 1959 under the Mutual Defense Assistance Program. Fitted with powerful pumps and other salvage equipment.

RUSTOM

Dimensions: 105 × 30 × 11 feet
Machinery: Crossley diesel. B.H.P.: 1,000=9·5 kts. (*max.*)
Radius: 1,500 miles endurance
Complement: 21

Notes

General purpose tug for the Pakistan Navy originally ordered from Werf-Zeeland at Hansweert, Netherlands, in Aug. 1952, but after the liquidation of this yard the order was transferred to Worst & Dutmer at Meppel. Launched on 29 Nov. 1955.

Photograph of *Rustom* in the 1957-58 to 1959-60 editions.

There are also the *Bholu* and *Gama*, harbour tugs built under an " off-shore " order by Costaguta-Voltz.

Tanker Notes

The water carrier *Zum Zum* (YW 15) was built in Italy under a United States off-shore procurement of the Mutual Defense Assistance Program.

A harbour order of 6,500 barrels capacity is under construction in Trieste, Italy, for the Pakistan Navy, under the mutual assistance programme between U.S.A. and Pakistan.

SOUTH AFRICA

Administration

Chief of Naval Staff:
Rear Admiral H. Biermann, O.B.E., S.A.N.

H.M. Dockyard at Simonstown was transferred to the Union of South Africa on 2 Apr. 1957.

Personnel

1958: 1,874 officers and ratings
1959: 1,929 officers and ratings
1960: 2,373 officers and ratings

New Construction Programme

3 Anti-Submarine Frigates ("Whitby" Class): ordered in 1957 for delivery in 1961-1964.

Mercantile Marine

Lloyd's Register of Shipping:
147 vessels of 236,135 tons *gross*

DESTROYERS

2 "W" Class

JAN VAN RIEBEECK (ex-*Wessex*, ex-*Zenith*)

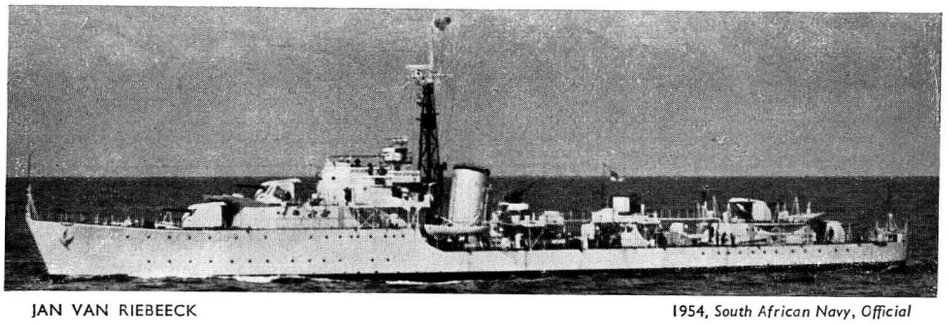
SIMON VAN DER STEL (ex-*Whelp*)

Name:	*Jan van Riebeeck*	*Simon van der Stel*
Pennant No.:	D 278	D 237
Builders:	Fairfield Shipbuilding & Engineering Co. Ltd., Govan, Glasgow.	R. & W. Hawthorn Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	20 Oct. 1942	1 May 1942
Launched:	2 Sep. 1943	3 June 1943
Completed:	11 May 1944	25 Apr. 1944

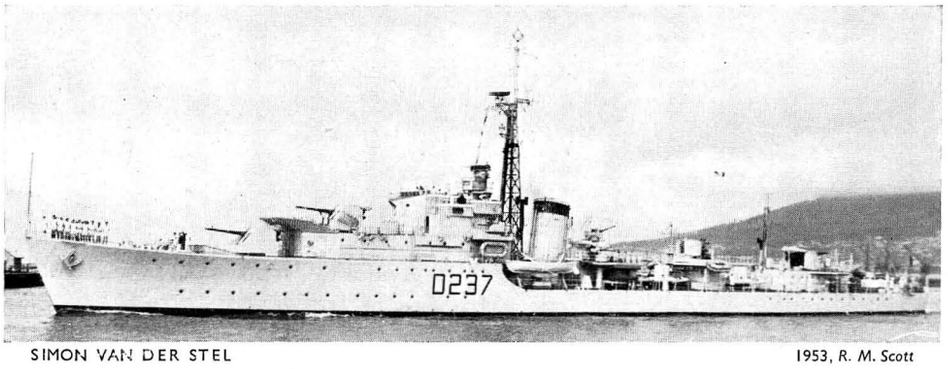
Displacement:	1,710 tons *standard* (2,505 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅜ × 10 (*mean*), 16 (*max.*) feet
Guns	4—4·7 inch, 1—40 mm. Bofors AA. 4—2 pdr. pompom, 8—20 mm. Oerlikon AA. *Simon Van der Stel* 4—4·7 inch. 3—40 mm. AA., 4—20 mm. AA.
Tubes:	8—21 inch (quadrupled)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Complement:	186

Notes

Purchased from Great Britain. *Jan van Riebeeck* was transferred to South Africa on 29 Mar. 1950, and *Simon van der Stel* early in 1952. Both ships are in reserve.



JAN VAN RIEBEECK — 1954, *South African Navy, Official*



SIMON VAN DER STEL — 1953, *R. M. Scott*

FAST ANTI-SUBMARINE FRIGATE *(Fully Converted from Destroyer)*

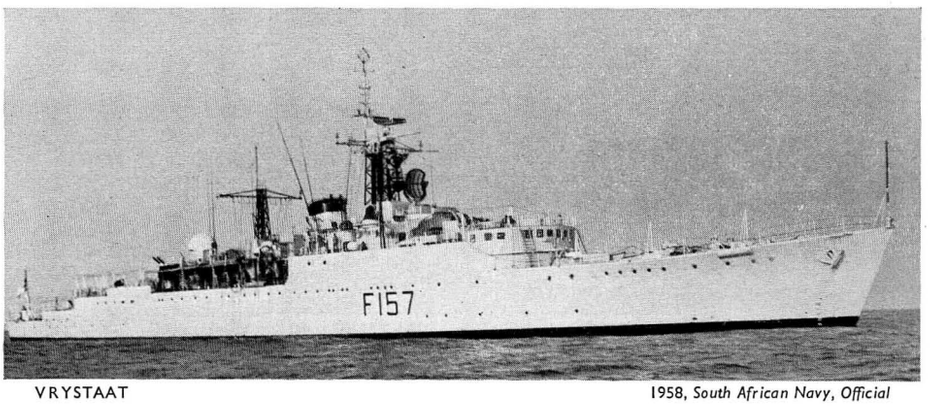
1 "W" Class. 1st Rate

VRYSTAAT (ex-*Wrangler*)

Pennant No.:	F 157
Builders:	Vickers-Armstrongs, Ltd., Barrow-in-Furness
Laid down:	23 Sep. 1942
Launched:	30 Dec. 1943
Completed:	14 July 1944
Displacement:	2,100 tons *standard* (2,700 tons *full load*)
Dimensions:	339½ (*pp.*), 362¾ (*o.a.*) × 35⅜ × 16 (*max.*) feet
Guns:	2—4 inch, 2—40 mm. Bofors AA.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Complement:	175

Notes

Fully converted into a fast anti-submarine frigate from a fleet destroyer in 1951-52 by Harland & Wolff Ltd., Belfast. Refitted by the Mount Stuart Dry Dock, Ltd., Cardiff, and taken over from the Royal Navy on 29 Nov. 1956, as a unit of the South African Navy and renamed *Vrystaat*. Sailed for South Africa end of Jan. 1957.



VRYSTAAT — 1958, *South African Navy, Official*

Class Notes

Originally a sister ship of *Jan van Riebeeck* and *Simon van der Stel* (see above).

Two further purchases of ships of similar type (one of which was to have been H.M.S. *Roebuck*) were cancelled in 1956.

ANTI-SUBMARINE FRIGATES *(New Construction)*

3 "Whitby" Class. 1st Rate

PRESIDENT KRUGER

Displacement:	2,144 tons *standard* (2,557 tons *full* load)
Dimensions:	360 (*pp.*), 370 (*o.a.*) × 41 × 12 feet
Guns:	2—4·5 inch (twin); 2—40 mm. Bofors AA. (twin)
Tubes:	12—21 inch (8 single homing, two twin)
A/S weapons:	2 Limbo three-barrelled depth bomb mortars
Machinery:	2 sets double reduction geared steam turbines. 2 shafts. S.H.P.: 30,430 =over 30 kts.
Boilers:	2 Babcock & Wilcox
Complement:	190

General Notes

Three anti-submarine frigates of the "Whitby" class are being built in the United Kingdom during the period 1958-1964 as a part of the expansion programme announced by the Minister of Defence. The first of these, *President Kruger*, and another are being built by Yarrow & Co. Ltd., Scotstoun, Glasgow, and one by Alex Stephen & Sons Ltd., Govan, Glasgow.

Officially stated that having been primarily designed for the location and detection of the most modern type of submarines, these first-rate frigates will be fitted with the latest underwater detection equipment and anti-submarine weapons of post-war development. Good sea-keeping qualities will enable the vessels to maintain their high speed in rough seas. The vessels are all welded and the structural arrangements have been specially designed to achieve the lightest possible structure. Opportunity has been taken in their building to gain experience of welding procedures and arrangements calculated to conduce to rapid building of such vessels in emergency.

Engineering Notes

The propelling machinery includes novel geared turbines of advanced design and high power which start on a cruising turbine and automatically switch over to the main turbine at a predetermined speed.

Electrical Notes

The electrical system is alternating current, 440 volts three phase, 60 cycles per second.

FRIGATES

Former British Anti-Submarine Type
2 " Loch " Class

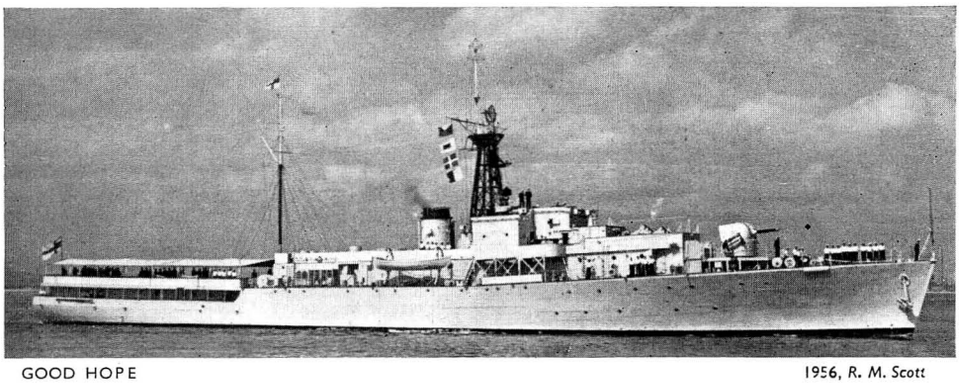
GOOD HOPE (ex-*Loch Boisdale*)
TRANSVAAL (ex-*Loch Ard*)

Name:	*Good Hope*	*Transvaal*
Pennant No.:	F 432	F 602
Builders:	Blyth Dry Docks & S.B. Co. Ltd.	Harland & Wolff, Ltd., Belfast (completed by Lobnitz & Co. Ltd., Renfrew)
Laid down:	8 Nov. 1943	20 Jan. 1944
Launched:	5 July 1944	2 Aug. 1944
Completed:	1 Dec. 1944	21 May 1945

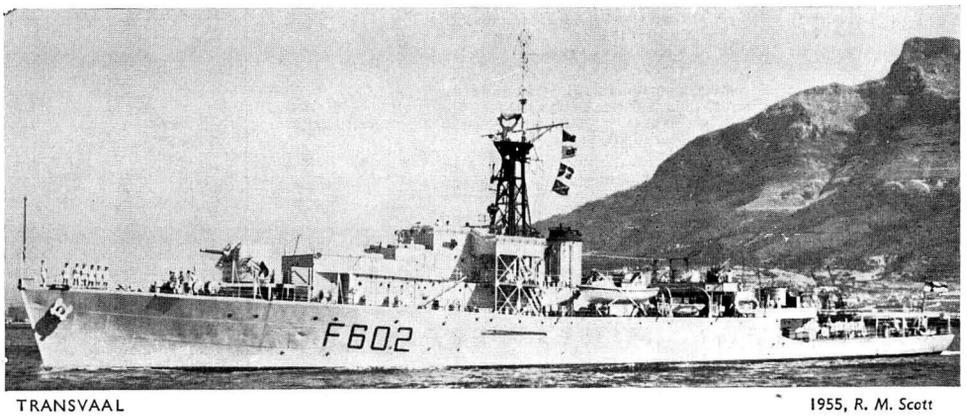
Displacement:	1,435 tons *standard* (2,260 tons *full load*)
Dimensions:	286 (*pp.*), 307 (*o.a.*) × 38½ × 15 (*max.*) feet
Guns:	*Transvaal*, 2—4 inch, 2—40 mm. Bofors AA. *Good Hope*, 2—4 inch, 4—3 pdr saluting guns
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts. (*max.*) designed. Sea speed: 18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	724 tons
Radius:	9,500 miles at 12 kts
Complement:	140

Notes

These two " Loch " class frigates, and a sister ship, *Natal*, were presented to South Africa by Great Britain in 1944-45. *Transvaal* is being modernised. *Good Hope* was converted to a despatch vessel and for training purposes in 1955, on similar lines to H.M.S. *Surprise*; she is primarily employed as a Training Ship; she has deckhouse superstructue for extra cabins, and reception platform above, built on aft. *Natal* was converted into a surveying ship in 1957, see below.



GOOD HOPE — 1956, *R. M. Scott*



TRANSVAAL — 1955, *R. M. Scott*

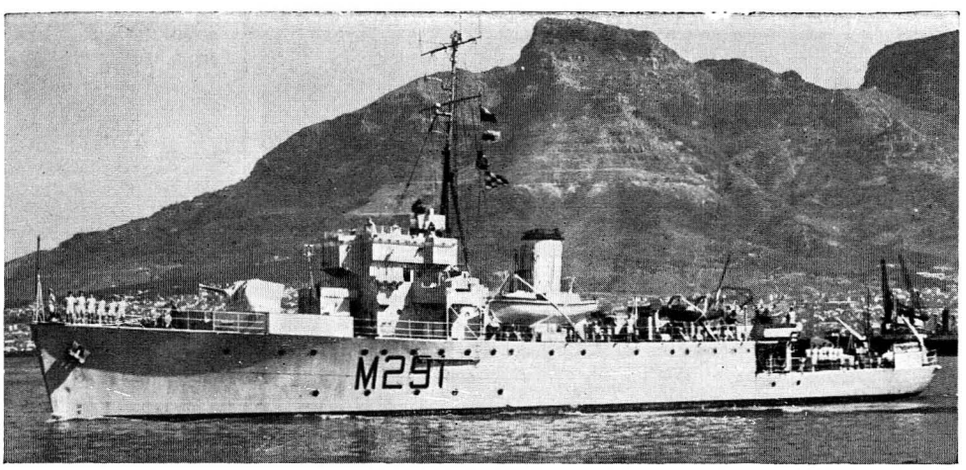
ESCORT MINESWEEPERS

Former British Ocean Type
2 " Algerine " Class

BLOEMFONTEIN (ex-*Rosamund*)
PIETERMARITZBURG (ex-*Pelorus*)

Name:	*Bloemfontein*	*Pietermaritzburg*
Pennant No.:	M 439	M 291
Builders:	Port Arthur Shipyards	Lobnitz & Co. Ltd., Renfrew
Laid down:	1943	8 Oct. 1942
Launched:	20 Dec. 1944	18 June 1943
Completed:	1945	7 Oct. 1943

Displacement:	1,040 tons *standard* (1,330 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	1—4 inch, 8—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,160=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	85



PIETERMARITZBURG — 1955, *R. M. Scott*

Notes

Purchased by South Africa from Great Britain in 1947. Of the " Algerine " class, the fastest and most efficient minesweepers in the Royal Navy, also used as escort vessels. Both ships are in reserve.

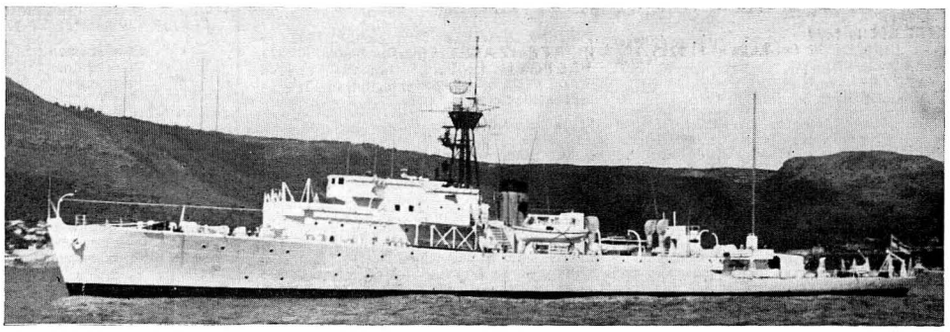
SURVEYING VESSELS

1 " Loch " Class. Former Frigate

NATAL (e *Loch Cree*)

Pennant No.:	A 301
Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne
Laid down:	18 Oct. 1943
Launched:	19 June 1944
Completed:	8 Mar. 1945

Displacement:	1,435 tons *standard* (2,260 tons *full load*)
Dimensions:	286 (*pp.*), 307 (*o.a.*) × 38½ × 12 (*mean*), 14⅔ (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts. (*max.*) designed. Sea speed: 18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	724 tons
Radius:	9,500 miles at 12 kts.
Complement:	124

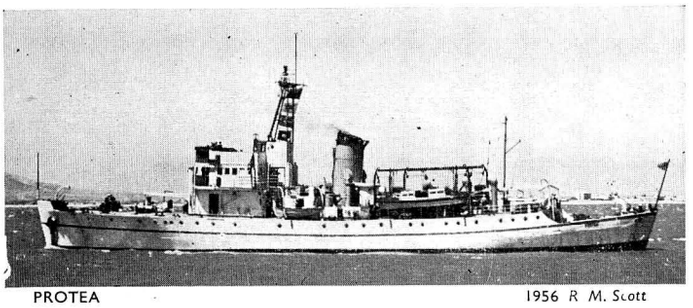


NATAL (as converted) — 1958, *South African Navy, Official*

Notes

Originally a " Loch " class frigate presented to South Africa by Great Britain in 1945. Converted into a surveying vessel in 1957, when guns and anti-submarine weapons were removed. Sister ship of *Good Hope* and *Transvaal*, see above.

Surveying Vessels—*continued*



PROTEA 1956 *R. M. Scott*

1 "Flower" Class. Former Frigate

PROTEA (ex-*Rockrose*)

Pennant No.:	A 321
Builders:	Charles Hill & Sons. Ltd., Bristol
Laid down:	28 Oct. 1940
Launched:	26 July 1941
Completed:	4 Nov. 1941
Displacement:	1,020 tons *standard* (1,340 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 16½ feet
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts. (*max.*) designed. Sea speed: 15 kts.
Boilers:	2 S.E.
Oil fuel:	200 tons
Complement	100

Notes

A former frigate (corvette type) of the "Flower" class. Engined by G. Clark. Formerly served in Royal Navy. Purchased in 1947. Refitted with new multiple strut foremast in 1955. Placed in reserve in 1957. Guns and depth charge throwers removed.

COASTAL MINESWEEPERS



WINDHOEK (enclosed bridge, tripod mast) 1958, *John I. Thornycroft & Co., Ltd.*



PRETORIA (open bridge and lattice mast) 1956, *R. M. Scott*

10 "Ton" Class (Type 1)

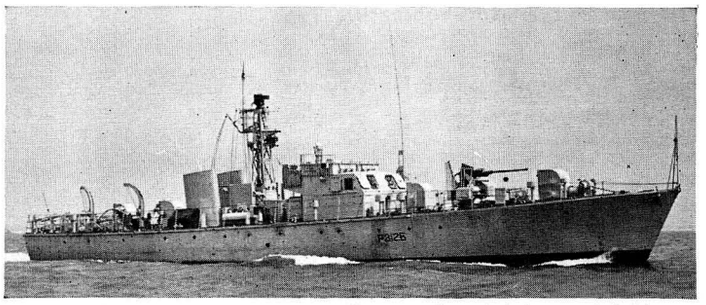
DURBAN M 1499
EAST LONDON (ex-*Chilton*) M 1215
JOHANNESBURG (ex-*Castleton*) M 1207
KAAPSTAD (ex-H.M.S. *Hazleton*) M 1142
KIMBERLEY (ex-*Stratton*) M 1210
MOSSELBAAI (ex-*Oakington*) M 1213
PORTELIZABETH (ex-*Dumbleton*) M 1212
PRETORIA (ex-H.M.S. *Dunkerton*) M 1144
WALVISBAAI (ex-*Packington*) M 1214
WINDHOEK M 1498

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 8¼ feet
Guns:	1—40 mm. Bofors AA., 2—20 mm. AA.
Machinery:	Diesels (Mirrlees in *Kaapstad* and *Pretoria*, Deltic in remainder). 2 shafts. 15 kts.
Complement:	27

Notes

Basically similar to the "Ton" class coastal minesweepers in the Royal Navy. *Kaapstad* and *Pretoria*, which have lattice mast and open bridge, were purchased in 1955. A modified ship, *Windhoek*, with frigate bridge and tripod mast, was launched at John I. Thornycroft & Co. Ltd., Woolston, Southampton, on 27 June 1957. *Durban*, which also has a covered bridge and tripod mast, was launched at Camper & Nicholson's, Gosport, on 12 June 1957. These first four ships of the class are now in reserve. *East London* and *Port Elizabeth* were transferred from the Royal Navy to the South African Navy at Hythe, Southampton Water, on 27 Oct. 1958, and sailed for South Africa in Nov. 1958. *Johannesburg*, *Kimberley* and *Mosselbaai* were delivered in 1959. *Walvisbaai* was launched by Harland & Wolff, Belfast, on 10 Dec. 1958 and delivered in 1959.

SEAWARD DEFENCE BOATS



HAERLEM 1960, *courtesy Vosper Ltd., Portsmouth, Builders*

5 "Ford" Class

GELDERLAND (ex-H.M.S. *Brayford*) P 3105
HAERLEM P 3126
NAUTILUS (ex-H.M.S. *Glassford*) P 3120
OOSTERLAND P 3127
RIJGER P 3125

Displacement:	99·6 tons *light*, 120 tons *standard* (160 tons *full load*)
Dimensions:	110 (*pp.*), 117¼ (*o.a.*) × 20 × 4½ feet
Guns:	1—40 mm. AA.
A/S weapons:	2 D.C.T. in *Haerlem*, *Oosterland* and *Rijger*. Depth charge release gear. Flares
Machinery:	2 Davy Paxman diesels. Foden engine on centre shaft. Max. speed=18 kts. (designed). Sea speed: 15 kts.
Complement:	24

Notes

Similar to "Ford" class, 3101 series, in the Royal Navy. *Gelderland* was purchased from Great Britain in 1954, being handed over to the South African Navy at Portsmouth on 30 Aug. 1954. They are an entirely new design of naval vessel, their purpose being to detect, locate and destroy submarines, including midget submarines, in the approaches of defended ports. They have modern electronic equipment for armament, and a comprehensive electrical installation. *Gelderland* was built by A. & J. Inglis Ltd., Glasgow. Second ship, *Nautilus*, was purchased in 1955. These first two ships of the class are now in reserve. *Rijger* was launched at Vosper Ltd., Portsmouth, on 6 Feb. 1959. *Haerlem* was launched at Vosper Ltd., Portsmouth, on 18 June 1958. *Oosterland* was launched at Vosper Ltd., Portsmouth, on 27 Jan. 1959. All three of these later ships are fitted with roll damping fins developed and manufactured by Vosper.

SEAWARD DEFENCE MOTOR LAUNCHES

5 Ex-HDML Type

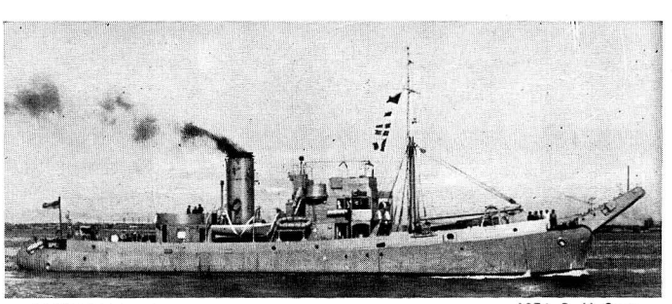
SDML 1197
SDML 1200
SDML 1202
SDML 1203
SDML 1204

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅔ × 5½ feet
Machinery:	2 Gardner 8-cylinder diesels. B.H.P.: 130=11 kts.
Complement:	11 to 14

Notes

Former HMDLs (Harbour Defence Motor Launches). All built in South Africa. Their guns have now been removed. Used as tenders to South African Naval Bases. *SDML* 1330 and *SDML* 1331 were stricken off in 1953, *SDML* 1199 and *SDML* 1201 were stricken in 1955. *SDML* 1198 was scrapped in 1956. *SDML* 1332 was scrapped on 11 Feb. 1958.

BOOM DEFENCE VESSELS



SOMERSET 1956, *R. M. Scott*

2 "Bar" Class

FLEUR (ex-*Barbrake*) P 273
SOMERSET (ex-*Barcross*) P 285

Displacement:	750 tons *standard* (919 to 960 tons *full load*)
Dimensions:	150 (*pp.*), 182 (*o.a.*) × 32¼ × 9½ (*mean*), 11½ (*max.*) feet
Machinery:	Triple expansion. 160 r.p.m. I.H.P.: 850=11·75 kts. (designed). Sea speed: 9 kts.
Boilers:	2 S.E. (pressure 200 lb. per sq. in.)
Fuel:	214 tons coal (*Fleur*); 186 tons oil (*Somerset*)
Complement:	32

Notes

Engined by Wm. Simons and Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne, respectively. Transferred from Great Britain. Of the same type as the "Bar" class boom defence vessels in the Royal Navy. Renamed in 1951, *Fleur* after General de la Rey's horse, and *Somerset*, the traditionally accepted name for Dick King's horse. *Fleur* is in reserve. Guns are removed in peace-time.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Fleur	Wm. Simons & Co. Ltd. Renfrew	18 July 1941	29 June 1942	15 July 1942
Somerset	Blyth Dry Docks & S.B. Co. Ltd.	15 Apr. 1941	21 Oct. 1941	14 Apr. 1942

Recent Disposal

The controlled minelayer *Skilpad* (ex-*Spindrift*, ex-*Polaris*), see particulars and photograph in the 1957-58 edition, was sold to commercial interests in 1958.

ARGENTINA

Administration

Secretary of Marine:
Contraalmirante Gaston Clement.

Chief of Naval Operations:
Vicealmirante Alberto P. Vago.

Commander-in-Chief, Sea-going Fleet:
Contraalmirante Augustin R. Penunas.

Director General, Administration:
Contraalmirante Contador Francisco N. Castro.

Chief of Naval Commission in Europe and Naval Attaché in London:
Capitan de Navio Carlos A. Sanchez Sañudo.

Personnel

1960: 1,500 officers, 20,000 ratings (including 5,000 conscripts).

Ships

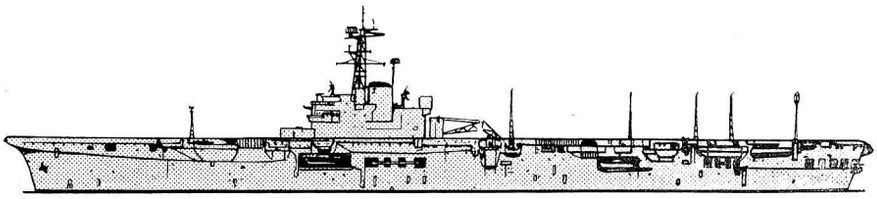
The names of all warships are prefaced by "A.R.A." (Armada Republica Argentina).

Mercantile Marine

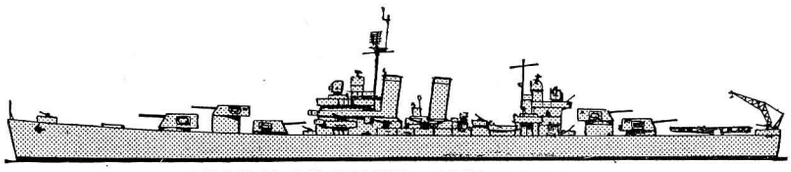
Lloyd's Register of Shipping:
358 vessels of 1,039,307 tons *gross*

Silhouettes

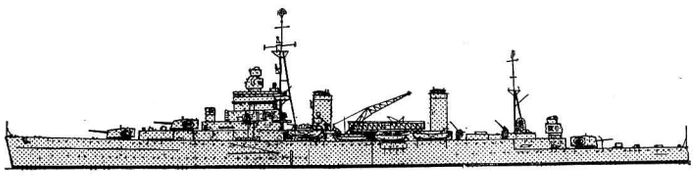
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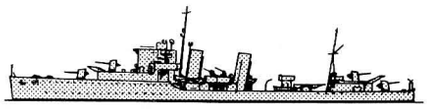
INDEPENDENCIA



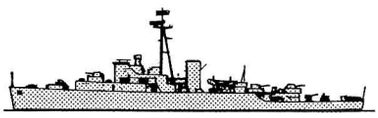
GENERAL BELGRANO, NUEVE DE JULIO



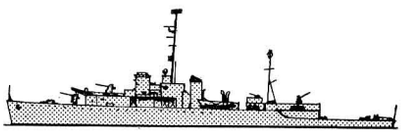
LA ARGENTINA



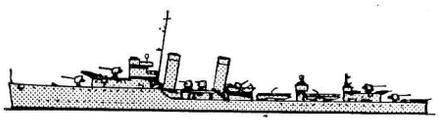
BUENOS AIRES *Class*



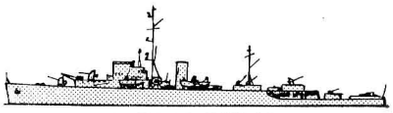
AZOPARDO, PIEDRABUENA



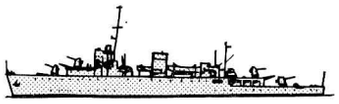
HERCULES



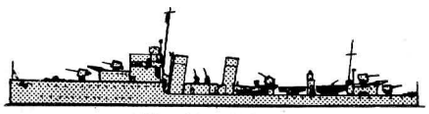
MENDOZA *Class*



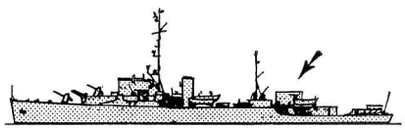
SARANDI, TRINIDAD



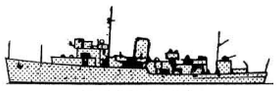
KING, MURATURE



CERVANTES *Class*



HEROINA



REPUBLICA

AIRCRAFT CARRIER *(Portaviones)*



INDEPENDENCIA 1957 *Wright & Logan*

1 Ex-British Type ("Colossus" Class)

INDEPENDENCIA (ex-H.M.S. *Warrior*)

Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	12 Dec. 1942
Launched:	20 May 1944
Completed:	24 Jan. 1946
Displacement:	14,000 tons *standard*, 18,400 tons *normal* (19,540 tons *full load*) officially revised figures
Dimensions:	Length: 630 (*pp.*), 695 (*o.a.*) feet. Beam: 80 feet. Width: 118 (*o.a.*) feet. Draught: 21½ (*mean*), 23½ (*max.*) feet. Flight deck: 690 feet long, 80 feet wide, 39 feet above water line
Guns:	8—40/60 mm. Bofors AA. (Provisionally)
Aircraft:	35 capacity
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (24·25 kts. sea speed)
Boilers:	4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.; 6,200 miles at 23 kts.
Complement:	1,076 (peace), 1,300 (war).



INDEPENDENCIA 1959, *Argentine Navy, Official*

General Notes

Lent to the Royal Canadian Navy from 1946 to 1948 Served in British Navy from 1948 to 1958. Modernised in 1952-53 with lattice foremast and extended and enlarged bridgework. Again modernised in 1955-56 with the partially angled flight deck and improved arrester gear. Acted as headquarters ship in the Christmas Island Atomic experiments from Feb. to Oct. 1957. Negotiations for the sale of the ship to the Argentine Government were concluded by the British Government in July 1958. Sailed from Portsmouth to Argentina on 10 Dec. 1958. Renamed *Independencia* at Puerto Belgrano naval base on 26 Jan. 1959.

Construction Notes

Flight deck is reported to have been strengthened to take aircraft of over 8 tons in weight. Sponsons can be dismantled to the extent of 3½ feet on either side if necessary to allow for passage through Panama Canal. Mercantile type hull. Built to Lloyd's specification up to main deck with the original intention of converting to commercial service after the Second World War. Damage control: No great measure of vertical sub-division on the sandwich system as it was reckoned that it is better for ships to settle evenly in the event of damage and flooding than to foster capsizing.

Insulated for tropical service and partially air-conditioned.

Engineering Notes

Engines and boilers are arranged *en echelon*, the two propelling machinery spaces having one set of turbines and two boilers installed side by side in each space, on the unit system, so that the starboard propeller shaft is longer than the port shaft. Maximum speed is 25 knots at 225 revolutions per minute. Economical speed is 15 knots at 120 revolutions per minute.

Operational Notes

Ten arrester wires to take 15,500 lb. aircraft up to 60 knots. Single track catapult for launching 20,000 lb. aircraft at 60 knots. Catapult accelerator gear port side forward. Flight deck originally designed for 14,000 lb. aircraft reinforced to take 20,000 lb. machines.

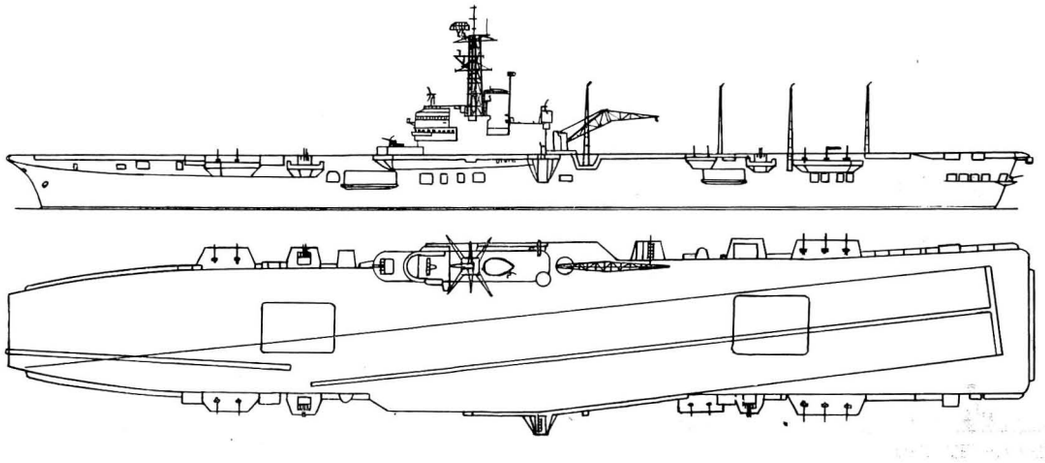
Dimensions of hangar are: Length, 445 feet; width, 52 feet; clear depth, 17½ feet. Dimensions of aircraft lifts are: 45 feet by 34 feet.

Experimental Notes

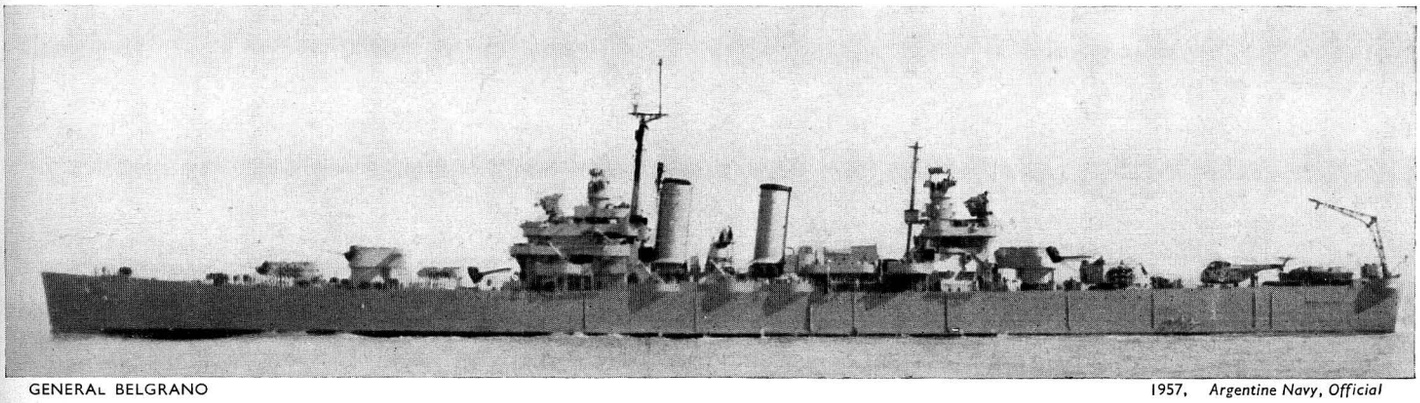
Warrior was temporarily equipped with a flexible landing deck in 1948-49 for operating jet fighters with skids instead of an under-carriage with wheels, making for safer landings of fast aircraft in limited space. The flexible deck consisted of a rubber sheet supported by air bags. It extended from the bows to the barrier forward of the island and was superimposed on the normal flight deck. After part of the deck was built up to the same level by laying on a light steel structure 2½ feet high.

Note to Drawing

Port elevation and plan. Drawing shows typical layout of guns when she was operational before transfer. Scale: 128 feet=1 inch



CRUISERS



GENERAL BELGRANO

1957, *Argentine Navy, Official*

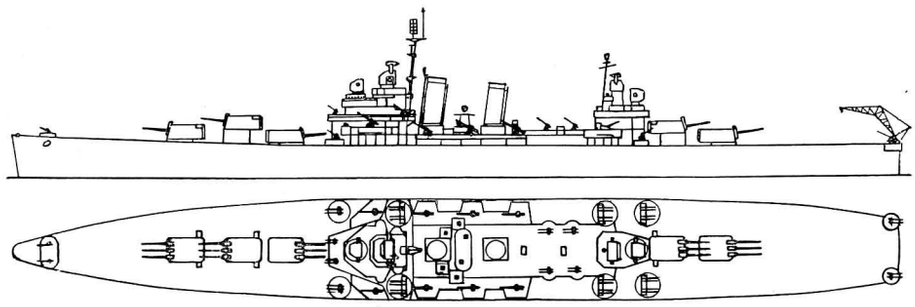
2 "Nueve de Julio" Class

GENERAL BELGRANO (ex-17 *de Octubre*, ex-*Phoenix*)
NUEVE DE JULIO (ex-*Boise*)

Displacement:	*General Belgrano:* 10,800 tons *standard*, 12,650 tons *normal* (13,470 tons *full load*) officially revised figures *Nueve de Julio:* 10,500 tons *standard*, 12,300 tons *normal* (13,645 tons *full load*) officially revised figures (May 1960)
Dimensions:	Length: 608½ (*o.a.*) feet. Beam: 69 feet. Draught: 24 feet (*max.*)
Guns:	15—6 inch, 47 cal.; 8—5 inch, 25 cal.; 28—40 mm. AA.; 16—20 mm. AA.; 4—47 mm. *saluting*.
Aircraft:	2 helicopters
Armour:	4"-1½" belt, 3"+2" decks, 5"-3" turrets, 8" C.T.
Machinery:	Westinghouse geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	8 Babcock & Wilcox Express type
Oil fuel:	2,200 tons
Radius:	7,600 miles at 15 kts.
Complement:	1,200

General Notes

Formerly CL 46 and CL 47, respectively, of the U.S. "Brooklyn" Class. Superstructure has been reduced, bulges added, beam increased, and mainmast derricks and catapults removed. Purchased from the United States in 1951 at a cost of $7,800,000, representing 10 per cent of their original cost ($37,000,000) plus the expense of reconditioning them. Both were transferred to the Argentine Navy on 12 Apr. 1951. *General Belgrano* was commissioned under the name *17 de Octubre* at Philadelphia on 17 Oct. 1951. *9 de Julio* was commissioned into the Argentine Navy at Philadelphia on 11 Mar. 1952.



Hangar Notes

The hangar in the hull right aft could accommodate one helicopter together with engine spares and duplicate parts, though 4 aircraft was the original complement. The incorporation of this hangar resulted in a very wide and nearly flat counter and high freeboard aft and also gave the after guns higher command. Above the hangar a revolving crane was placed at the stern extremity overhanging the hangar hatch. The two aircraft catapults originally mounted above the hangar, as far outboard as possible, were removed. It was officially stated in May 1960 that the crane and catapult of these two cruisers have been removed, and they do not carry any aircraft.

Note to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

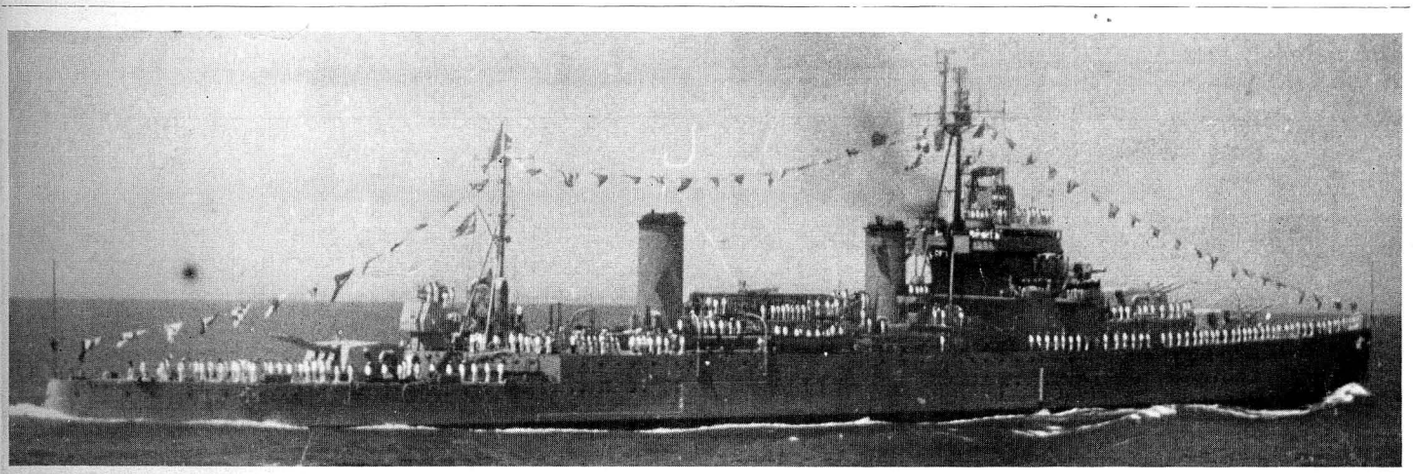
Photograph Notes

A starboard bow aerial view of *9 de Julio* appears in the 1954-55 to 1958-59 editions, and a larger port quarter surface view of *9 de Julio* appears in the 1957-58 edition.

Historical Notes

9 de Julio refers to 9 July, 1816, when the Argentine provinces signed the Declaration of Independence. *17 de Octubre* was renamed *General Belgrano* in 1956 following the overthrow of President Peron the year before.

Name	*Builders*	*Laid down*	*Launch*	*Completed*
General Belgrano	New York S.B. Co., Camden	15 Apr. 1935	12 Mar. 1938	18 Mar. 1939
Nueve de Julio	Newport News S.B. Co.	1 Apr. 1935	3 Dec. 1936	1 Feb. 1939



LA ARGENTINA

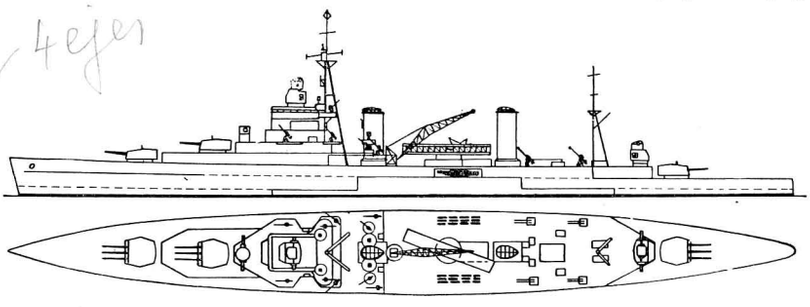
1960, *Argentine Navy Official*

LA ARGENTINA

Builders:	Vickers-Armstrongs Ltd., Barrow-in-Furness
Laid down:	Jan. 1936
Launched:	16 Mar. 1937
Completed:	31 Jan. 1939
Displacement:	6,000 tons *standard*, 7,610 tons *normal* (8,630 tons *full load*) officially revised figures (May 1960)
Dimensions:	Length: 510 (*pp.*), 541½ (*o.a.*) feet. Beam: 56½ feet. Draught: 16½ feet (*max.*)
Guns:	9—6 inch, 4—47 mm., 14—40 mm. AA.
Tubes:	6—21 inch (tripled)
Armour:	3" side, 2" deck, 2" gunhouses, 3" C.T.
Machinery:	Parsons geared turbines. 3 shafts. S.H.P.: 54,000=30 kts.
Boilers:	4 Yarrow, working pressure 300 lb.
Oil fuel:	1,500 tons
Radius:	7,500 miles at 12 kts.
Complement:	800

General Notes

Specially designed as Training Cruiser, but now reclassified as a cruiser. Named after the Republic. Cost 6,000,000 gold pesos (about £1,750,000). The catapult originally mounted for the two Seagull Amphibians aircraft formerly carried has been suppressed, and it was officially stated in May 1960 that the crane has also been removed.



Gunnery Notes

Original 4 inch guns were removed in 1950 and 40 mm. guns added.

Note to Drawing

Port elevation and plan. Catapult and crane have been removed. Scale: 128 feet=1 inch.

Recent Disposals

The two old heavy cruisers *Almirante Brown* and *Veinticinco de Mayo* (25 May), see full particulars, photograph and drawings in the 1959-60 edition, have been withdrawn from service and deleted from the list, it was officially stated in May 1960.

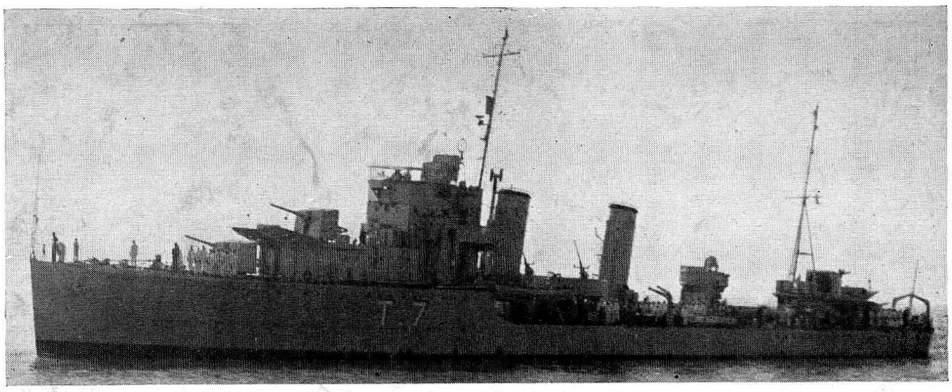
DESTROYERS

6 "Buenos Aires" Class

BUENOS AIRES **MISIONES** **SAN JUAN**
ENTRE RIOS **SANTA CRUZ** **SAN LUIS**

Displacement:	1,375 tons *standard*, 1,820 to 1,850 tons *normal* (1,980 to 2,010 tons *full load*) officially revised figures (May 1960)
Dimensions:	312 (*pp.*), 320 (*w.l.*), 323 (*o.a.*) × 34¾ × 10⅔ (*mean*) feet
Guns:	4—4·7 inch, 6—40 mm. AA., 5 M.G.
Tubes.	4—21 inch (quadrupled)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 34,000=35 kts.
Boilers:	3, of 3-drum type
Oil fuel:	450 tons
Radius:	4,100 miles at 14 kts.
Complement:	200

Pennant Nos.	*Name*	*Builders*	*Launched*
D 6	*Beunos Aires*	Vickers-Armstrongs (Barrow)	21 Sep. 1937
D 7	*Entre Rios*	Vickers-Armstrongs (Barrow)	21 Sep. 1937
D 11	*Misiones*	Cammell Laird	23 Sep. 1937
D 9	*San Juan*	Clydebank	24 June 1937
D 10	*San Luis*	Clydebank	24 Aug. 1937
D 12	*Santa Cruz*	Cammell Laird	3 Nov. 1937



ENTRE RIOS — 1957, *Argentine Navy, Official*

Notes
All laid down in 1936 and completed during March-Oct. 1938. Cost approached £400,000 each. *Corrientes*, of this class, was lost by collision with the heavy cruiser *Almirante Brown* during exercises on 3 Oct. 1941. Names are those of provinces of the Argentine Republic. Classification of these ships was changed from *Exploradores* to *Torpederos* in 1952, and from *Torpederos* to *Destructores* in 1957. Four torpedo tubes were removed in 1956.

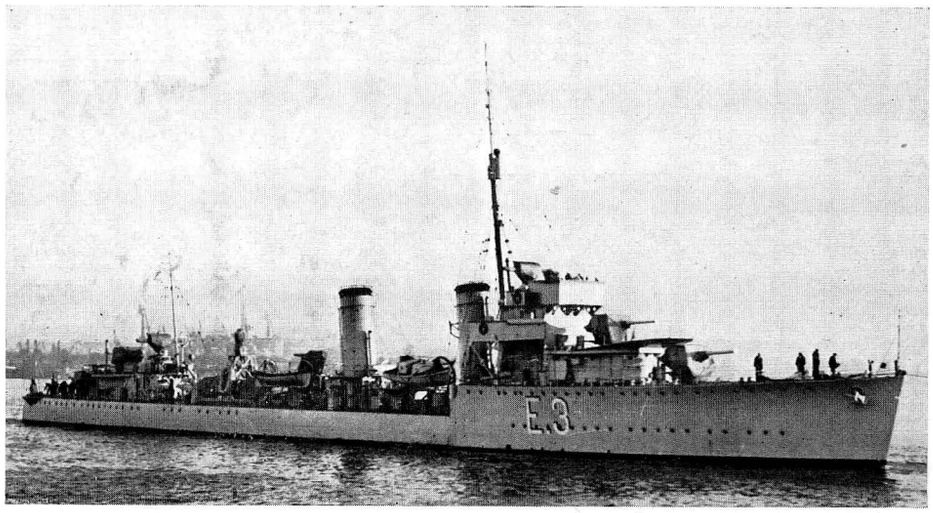
3 "Mendoza" Class

MENDOZA **LA RIOJA** **TUCUMÁN**

Displacement:	1,570 tons *standard*, 1,970 tons *normal* (2,370 tons *full load*) officially revised figures (May 1960)
Dimensions:	332¼ (*w.l.*), 336⅔ (*o.a.*) × 31¾ × 12½ feet
Guns:	4—4·7 inch, 6—40 mm. AA., 4 M.G.
Tubes:	6—21 inch, in triple deck mountings
A/S weapons:	Improved mortars
Machinery:	2 sets Parsons single reduction geared turbines. 2 shafts. S.H.P.: 42,000=38·6 kts. designed (39·4 kts. on trials). 30 kts. sea speed
Boilers:	4, of 3-drum type, 250 lb. working pressure
Oil fuel:	773 tons
Radius of action:	6,500 miles at 14 kts.
Complement:	200

General Notes
All laid down in June 1927, for completion in June 1929. Named after Argentine provinces. Classification of these ships was changed from *Exploradores* to *Torpederos* in 1952 and to *Destructores* in 1957.

Pennant Nos.	*Name*	*Builders*	*Launched*
D 3	*Mendoza*	Samuel White & Co. Ltd., Cowes	18 July 1928
D 4	*La Rioja*		26 Jan. 1929
D 5	*Tucumán*		16 Oct. 1928



MENDOZA — *Added* 1958, *Argentine Navy, Official*

Conversion Notes
La Rioja and *Tucumán* are being converted into fast anti-submarine frigates in Rio Santiago Shipyards.

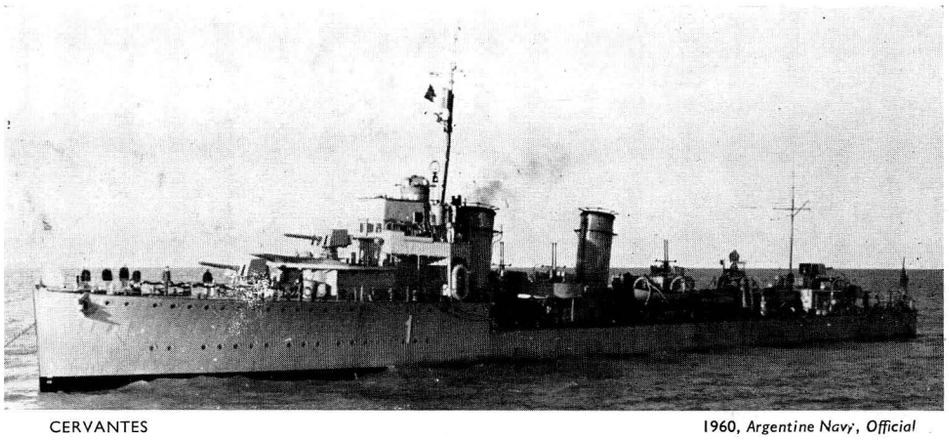
1 "Cervantes" Class

CERVANTES (ex-*Churruca*)

Pennant No.:	D 1
Builders:	Cadiz
Launched:	26 June 1925
Displacement:	1,522 tons *standard* 1,840 tons *normal* (2,070 tons *full load*) officially revised figures
Dimensions:	320 (*pp.*), 331⅓ (*o.a.*) × 31½ × 11½ feet
Guns:	4—4·7 inch, 6—40 mm. AA., 4 M.G.
Tubes:	6—21 inch, in triple deck mountings
A/S weapons:	2 D.C.T.
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 42,000=32 kts. (38 kts. on trials). 27 kts. sea speed
Boilers:	4, of 3-drum type
Oil fuel:	540 tons
Radius of action:	4,500 miles at 14 kts.
Complement:	200

General Notes
Purchased from the Spanish Government in 1927. *Cervantes* is named after the author of "Don Quixote". Classification was changed from *Exploradore* to *Torpedero* in 1952, and to *Destructore* in 1957.

Recent Disposal
Sister ship *Garay* (ex-*Juan de Garay*, ex-*Alcalá Galiano*) was withdrawn from service and deleted from the list in May 1960.



CERVANTES — 1960, *Argentine Navy, Official*

SUBMARINES

2 Ex-U.S. "Gato" Class

ex-FLOUNDER **ex-GABILAN**

	Ex-*Flounder*	Ex-*Gabilar*
Name:		
Pennant No.:	S 251 (U.S.)	S 252 (U.S.)
Laid down:	5 Dec. 1942	5 Jan. 1943
Launched:	22 Aug. 1943	19 Sep. 1943
Completed:	29 Nov. 1943	29 Dec. 1943

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., d.p., 2—40 mm. AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	General Motors 2-stroke diesels. B.H.P.: 6,500=21 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*). Have 2 engine rooms instead of 1, to reduce size of compartments
Oil fuel:	300 tons
Radius:	10,000 miles at 8 kts.
Complement:	85

General Notes
Former United States submarines of the "Gato" class scheduled to be transferred from the U.S.A. to Argentina during 1960, it is officially stated. Both were built by the Electric Boat Company, Groton, Connecticut.

Recent Disposals
The old submarines *Salta* and *Santiago del Estero* were withdrawn from service and deleted from the list, it was officially stated in May 1960. Their sister ship *Sante Fe* was officially removed from the Navy list in 1957.

FRIGATES

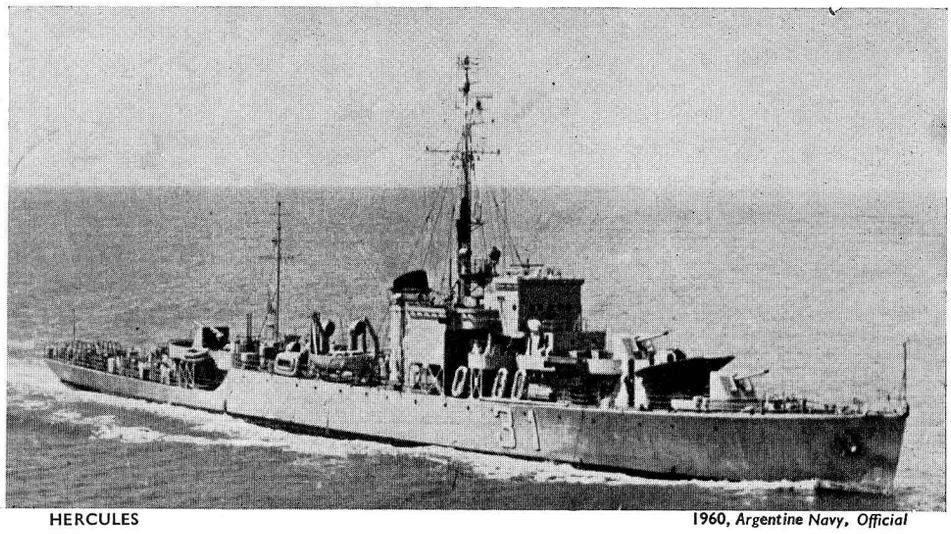
1 Ex-" River " Class

HERCULES (ex-U.S.S. *Asheville*, ex-H.M.C.S. *Nadur*, ex-H.M.S. *Adur*)

Builders:	Canadian Vickers Ltd., Montreal
Laid down:	10 Mar. 1942
Launched:	22 Aug. 1942
Completed:	1 Dec. 1942

Displacement:	1,445 tons *standard*, 2,050 tons *normal* (2,320 tons *full load*) officially revised figures
Dimensions:	283 (*w.l.*) 301½ (*o.a.*) × 36½ × 13¾ feet
Guns:	2—4·1 inch, 8—40 mm. AA.
A/S weapons:	1 Hedgehog, 6 D.C.T.
Machinery:	Triple expansion. I.H.P.: 5,500= 20 kts. (designed). 19 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	680 tons
Radius:	7,800 miles at 12 kts.
Complement:	180

Notes
Former United States " Asheville " class patrol escort, British " River " type. Pennant No. P. 31. Fitted as Flagship.



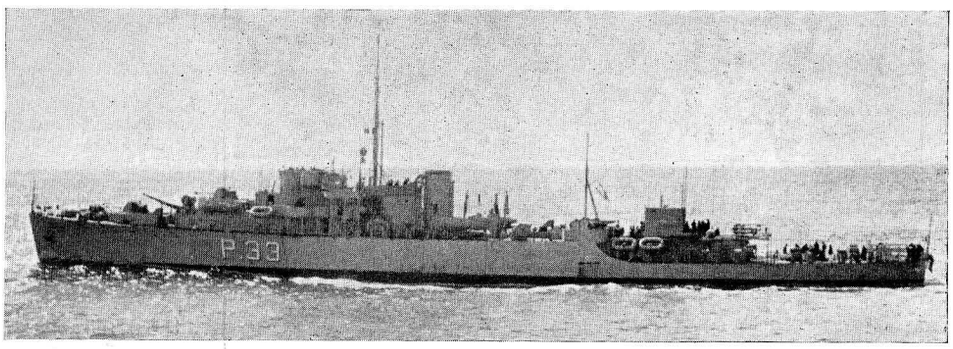
HERCULES — 1960, *Argentine Navy, Official*

3 " Sarandi " Class. Ex-U.S. PF Type

HEROINA (ex-U.S.S. *Reading*)
SARANDI (ex-U.S.S. *Uniontown*, ex-*Chattanooga*)
TRINIDAD (ex-H.M.S. *Caicos*, ex-*Hannam*)

Displacement:	1,420 to 1,445 tons *standard*, 1,920 tons *normal* (2,235 to 2,415 tons *full load*) officially revised figures
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13⅔ feet
Guns:	2—4·1 inch, 8—40 mm. AA.
A/S weapons:	1 Hedgehog, 6 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20·3 kts. on trials (19 kts. sea speed)
Boilers:	2, of 3-drum type
Oil fuel:	700 tons
Radius:	7,800 miles at 12 kts.
Complement:	175

Notes
Former United States patrol escorts of the " Tacoma " class. These ships bear the names of frigates which saw prominent action during the War of Independence. *Trinidad* was formerly known as *Santisma Trinidad*.



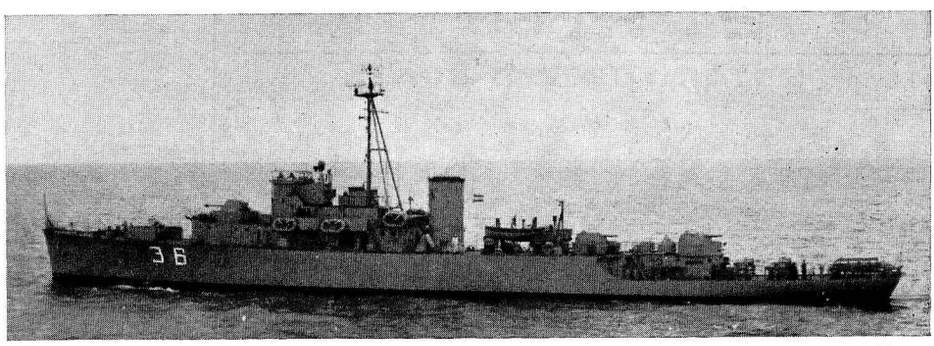
SARANDI — 1960, *Argentine Navy, Officia*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
P 32	*Heroina*	Leatham Smith, Superior	25 May 1943	28 Aug. 1943	19 Aug. 1944
P 33	*Sarandi*	Leatham Smith, Superior	21 Apr. 1943	7 Aug. 1943	15 Apr. 1944
P 34	*Trinidad*	Walsh-Kaiser, Providence	1943	5 Sep. 1943	2 Jan. 1944

2 " Azarpardo " Class

AZOPARDO	**PIEDRABUENA**
Name:	*Azopardo*	*Piedrabuena*
Pennant No.:	P 35	P 36
Laid down:	Nov. 1950	Nov. 1950
Launched:	12 Dec. 1953	12 Dec. 1954
Completed:	1957	1958

Displacement:	1,160 tons *standard*, 1,220 tons *normal* (1,400 tons *full load*) revised figures
Dimensions:	279 × 31½ × 10 feet
Guns:	1—4·1 inch, 6—40 mm. Bofors AA.
A/S weapons:	1 Hedgehog, 4 Depth Charge Mortars
Machinery:	2 Parsons steam turbines. 2 shafts. S.H.P.: 5,000=20 kts.
Boilers:	2 Water tube 3-drum type
Oil fuel:	340 tons
Radius:	2,300 miles
Complement:	167



PIEDRABUENA — 1959, *Argentine Navy, Official*

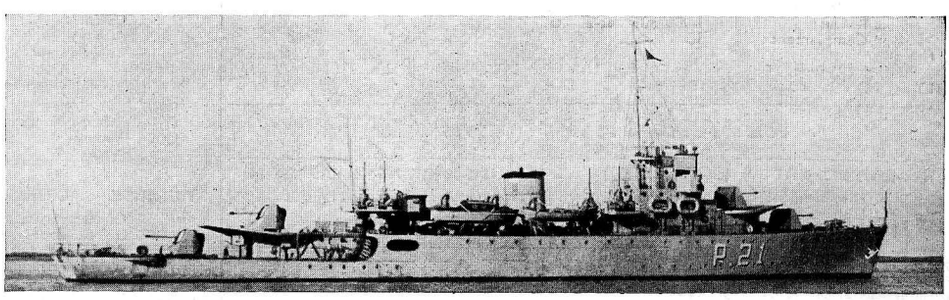
Notes
Both built at Astillero Nav. Rio Santiago. Improved " King " type. *Azopardo* is named after the Argentine naval hero.

2 " King " Class

Rated as Patrol Vessels

KING	**MURATURE**
Name:	*King*	*Murature*
Pennant No.:	P 21	P 20
Laid down:	Dec. 1938	June 1938
Launched:	Dec. 1943	July 1945
Completed:	28 July 1946	18 Nov. 1946

Displacement:	913 tons *standard*, 1,000 tons *normal* (1,032 tons *full load*)
Dimensions:	252⅔ × 29 × 7½ feet
Guns:	3—4·1 inch, 2—40 mm. Bofors AA., 2—40 mm. NA. AA., 2 M.G.
A/S weapons:	4 D.C.T.
Machinery:	2 Werkspoor 4-stroke diesels. 2 shafts. B.H.P.: 2,500=18 kts.
Oil fuel:	90 tons
Radius:	9,000 miles at 12 kts.
Complement:	130



KING — 1952, *Argentine Navy, Official*

Notes
Both built at Astillero Nav. Rio Santiago. Named after Captain John King, an Irish follower of Admiral Brown, who distinguished himself in the war with Brazil, 1826-28; and Captain Murature, who performed conspicuous service against the Paraguayans at the Battle of Cuevas on Aug. 6 1865.

CORVETTE

1 Ex-British "Flower" Class

REPÚBLICA (ex-*Smilax*)

Builders:	Collingwood Shipyards
Launched:	24 Dec. 1942
Completed:	21 June 1943
Displacement:	995 tons *standard*, 1,220 tons *normal* (1,375 tons *full load*)
Dimensions:	206⅔ × 34½ × 14½ feet
Guns:	1—4·1 inch AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog, 4 D.C.T.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 2,750=16 kts. (*max.*)
Boilers:	2
Oil fuel:	350 tons
Radius:	6,800 miles at 10 kts.
Complement:	106

Notes
Former British modified "Flower" Class corvette (frigate). Transferred in 1949. Perpetuates the name of a corvette which distinguished herself in the War of Independence. Pennant No. P. 10.



REPUBLICA — 1960, *Argentine Navy, Official*

MINESWEEPERS (Rated as *Rastreadores*)



PY — 1960, *Argentine Navy, Official*

BOUCHARD **GRANVILLE** **PY** **SEAVER**
DRUMMOND **PARKER** **ROBINSON** **SPIRO**

Displacement:	450 tons *standard*, 605 to 620 tons *normal* (650 tons *full load*) officially revised figures
Dimensions:	164 (*pp.*), 197 (*o.a.*) × 24 × 8½ feet (*max.*)
Guns:	4—40 mm. Bofors AA., 2 M.G.
Machinery:	2 sets M.A.N. 2-cycle diesels. B.H.P.: 2,000=16 kts.
Oil fuel:	50 tons
Radius:	3,000 miles at 10 kts.
Complement:	70

Notes
All laid down in 1935-37. First Argentine warships built in local shipyards. Named after distinguished naval officers (several of whom were of British extraction). Carry mines.

Pennant No.	*Name*	*Builders*	*Launched*
M 7	*Bouchard*	Rio Santiago Naval Yard	20 Mar. 1936
M 2	*Drummond*	Rio Santiago Naval Yard	19 June 1936
M 4	*Granville*	Rio Santiago Naval Yard	27 Jan. 1937
M 11	*Parker*	Sanchez Shipyard, San Fernando	2 May 1937
M 10	*Py*	Rio Santiago Naval Yard	30 Mar. 1938
M 3	*Robinson*	Hansen & Puccini, San Fernando	18 Aug. 1938
M 12	*Seaver*	Hansen & Puccini, San Fernando	18 Aug. 1938
M 13	*Spiro*	Rio Santiago Naval Yard	7 June 1937

MOTOR TORPEDO BOATS



LT 2 — *Added* 1958, *Argentine Navy, Official*

LT 1 **LT 2** **LT 3** **LT 4** **LT 6** **LT 7** **LT 8** **LT 9**

Displacement:	45 tons *standard* (50 tons *full load*)
Dimensions:	71 (*pp.*), 78¾ (*o.a.*) × 20 × 4½ feet
Guns:	2—40 mm. NA. AA., 2—·5 inch Br. AA. M.G.
Torpedoes:	4 torpedo cradles
A/S weapons:	2 rocket projectors
Machinery:	3 Packard engines. H.P.: 4,500=42 kts. (*max.*)
Fuel:	9 tons aviation spirit
Radius:	1,000 miles at 20 kts.
Complement:	12

Notes
"Higgins" type. Built in New Orleans, U.S.A. in 1946. Pennant Nos. P 81-84, 86-89. LT 5 (P 85) was officially removed from the Navy List.

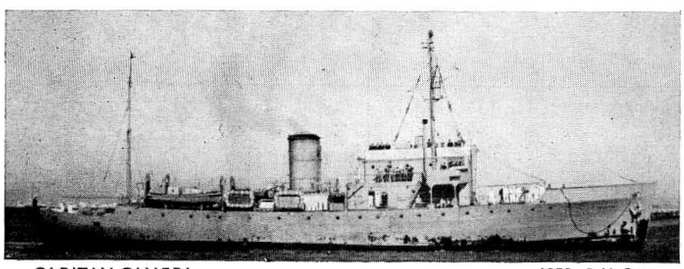
REPAIR SHIPS (*Buques Taller*)

INGENIERO GADDA (ex-U.S. *LST* 82) **INGENIERO IRIBAS** (ex-U.S. *LST* 81)

Displacement:	2,160 tons *standard* (3,776 tons *full load*) revised figures
Dimensions:	382 × 50 × 16½ feet
Guns:	2—40 mm. AA. Bofors
Machinery:	2 sets diesels. B.H.P.: 1,800=11 kts.
Oil fuel:	700 tons
Radius:	9,500 miles at 9 kts.
Complement:	150

Notes
Built by Jeffersonville Boat and Mach., Indiana. Launched in 1943. Two propellors and two rudders. Fitted as Repair Ships. Rated as Workshop Vessels. Bear the names of two engineers of the Argentine Navy who died on duty. Former U.S. landing ships. (Served in the British Navy during 1943-46). Pennant Nos. Q 22 and Q 21.

SURVEYING VESSELS (*Buques Oceanograficos*)



CAPITAN CANEPA — 1958, *R.M. Scott*

CAPITAN CANEPA (ex-H.M.C.S. *Barrie*)

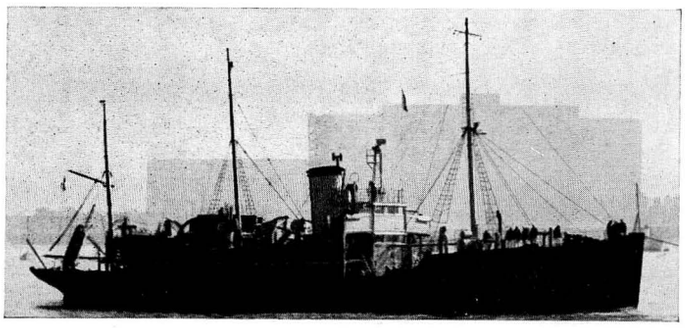
Displacement:	995 tons *standard* (1,265 tons *full load*)
Dimensions:	208 × 33½ × 16½ feet
Machinery:	Triple expansion. I.H.P.: 2,750=15 kts.
Boilers:	2
Oil fuel:	271 tons
Complement:	54

Notes
Former Canadian corvette (frigate) of the "Flower" class. Launched in Canada on 12 Nov. 1940. Completed on 12 May 1941.

USHUAIA

Displacement:	1,275 tons *standard* (1,500 tons *full load*)
Dimensions:	211 × 31½ × 11½ feet
Guns:	Removed
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 1,200=12·7 kts.
Oil fuel:	60 tons (officially revised figure)
Radius:	3,500 miles
Complement:	65

Notes
Built at Rio Santiago. Launched in 1939. Named after the capital of the territory of Tierra del Fuego. Pennant No. B 4. Formerly rated as a transport until 1959.



BAHIA BLANCA — 1958, *Argentine Navy, Official*

BAHIA BLANCA (ex-*San Luis*) **MADRYN** (ex-*Comodoro Rivadavia*, ex-*San Juan*)

Displacement:	843 tons *standard* (970 tons *full load*)
Dimensions:	195 (*pp.*), 206⅔ (*o.a.*) × 33 × 11¾ feet
Guns:	1—3 inch
Machinery:	Hawthorn-Werkspoor Diesel. 1 shaft. B.H.P.: 750=12·5 kts.
Boilers:	1 single-ended Scotch to supply steam to auxiliary machinery
Oil fuel:	88 tons
Radius:	7,000 nautical miles
Complement:	63

Notes
Both built at Hebburn-on-Tyne. Delivered in Feb. 1928. Named after Argentine ports.

No.	*Name*	*Builders*	*Launched*	*Completed*
Q 7	*Bahia Blanca*	Hawthorn, Leslie & Co., Ltd.	26 Oct. 1927	Feb. 1928
Q 6	*Madryn*		27 Sep. 1927	Feb. 1928

ALFEREZ MACKINLAY

Displacement:	700 tons *standard*, 935 tons *normal* (1,020 tons *full load*)
Dimensions:	193 × 28¼ × 13 feet
Machinery:	H.P.: 520=9·5 kts.
Coal fuel:	195 tons
Radius:	4,500 miles

Notes
Built in the Netherlands. Launched in 1914. Former Surveying Vessel used as Lighthouse Inspection Vessel. Subsequently fitted out as a Rescue Ship and rated as such until 1959 when she was reclassified as a surveying vessel. Pennant No. Q 11.
The gantry Ship *Samba* (ex-U.S. *LST* 1104) is no longer a unit of the Navy.

TANK LANDING SHIPS

BDT 1 **CABO SAN BARTOLOME**
BDT 2 **CABO SAN DIEGO**
BDT 3 **CABO SAN FRANCISCO DE PAULA**
BDT 4 **CABO SAN GONZALO**
BDT 6 **CABO SAN ISIDRO**
BDT 7 **CABO SAN PABLO**
BDT 10 **CABO SAN PIO**
BDT 11 **CABO SAN SEBASTIAN**
BDT 13 **CABO BUEN TIEMPO**
BDT 14 **CABO SAN VICENTE**

Displacement:	2,366 tons (*beaching*), 4,080 tons (*full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11½ (14 *max.*) feet
Machinery:	2 sets diesels. Two screws. B.H.P.: 1,800=11 kts.
Oil fuel:	700 tons
Radius:	9,500 at 9 kts.
Complement:	80

Notes
Ex-United States LST's 875, 995, 998, 872, 919, 994, 1057, 1044, 1108. Built by Puget Sound Bridge and Dredging Co., Seattle, U.S.A. Launched in 1944. Have two rudders. BTD 1 to 5 Pennant Nos. O 41 to 45. BTD 7, and 11 were named *Dona Elora* and *Dona Irma*. BDT 5, BDT 8, BDT 9, and BDT 12, were withdrawn from service in 1958-60.

MEDIUM LANDING SHIPS

BDM 1 **BDM 2**

Displacement:	743 tons (*beaching*), 1,095 tons (*full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 33¾ × 6 (8 *max.*) feet
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 2,800=13 kts.
Oil fuel:	170 tons
Radius:	4,100 miles at 12 kts.
Complement:	60

Notes
Former American LSM's 267 and 86, respectively. Pennant Nos. Q 69 and Q 70.

INFANTRY LANDING CRAFT



BDI 4 1960, *Giorgio Arra*

BDI 1 (Q.54) **BDI 4 (Q.57)** **BDI 7 (Q.60)** **BDI 12 (Q. 65)** **BDI 15 (Q.68)**
BDI 2 (Q.55) **BDI 5 (Q.58)** **BDI 10 (Q.63)** **BDI 14 (Q.67)**

Displacement:	230 tons *light* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 159 (*o.a.*) × 23¼ × 5 feet
Guns:	2—20 mm. NA. AA. (only in BDI's 2, 4, 5 and 12)
Machinery:	8 sets diesels. B.H.P.: 3,200=14 kts. Two reversible propellers
Oil fuel:	110 tons
Radius:	6,000 miles at 12 kts.
Complement:	30

Notes
Ex-American LCIL's 583, 1067, 606, 750, 748, 688, 753, 1060 and 689. BDI 3, BDI 6, BDI 8, BDI 9, BDI 11, and BDI 13. were withdrawn from service in 1958. BDI 1, BDI 2 and BDI 4 were given new Q numbers as shown above instead of Q 64, 65 and 67.

PERSONNEL AND VEHICLE LANDING CRAFT

EDPV 1 **EDPV 2** **EDPV 3** **EDPV 4** **EDPV 6** **EDPV 7** **EDPV 8** **EDPV 9** **EDPV 10** **EDPV 11** **EDPV 12** **EDPV 13** **EDPV 17** **EDPV 19** **EDPV 20** **EDPV 21** **EDPV 22** **EDPV 24** **EDPV 27** **EDPV 28**

Displacement:	12 tons
Dimensions:	39½ × 10½ × 5½ feet
Machinery:	1 diesel. Speed 9 kts.

Notes
Ex-American LCVP's. Nos. 16, 23, 25 and 26 were withdrawn from service in 1959.

TRAINING SHIPS (*Buques Escuela*)

LIBERTAD

Displacement:	4,000 tons (officially revised figure, May 1960)
Dimensions:	309½ × 45½ × 22½ feet
Guns:	1—3 inch, 4—40 mm. AA., 4—47 mm. saluting
Machinery:	2 diesels. B.H.P.: 2,400=13·5 kts.
Endurance:	15,000 miles
Complement:	370 (crew) plus 150 cadets

Notes
Under construction in the State-owned shipyards at Rio Santiago. Sailing ship. Three masts. Launched on 30 June 1956. It was officially stated in May 1960 that this ship is practically completed.

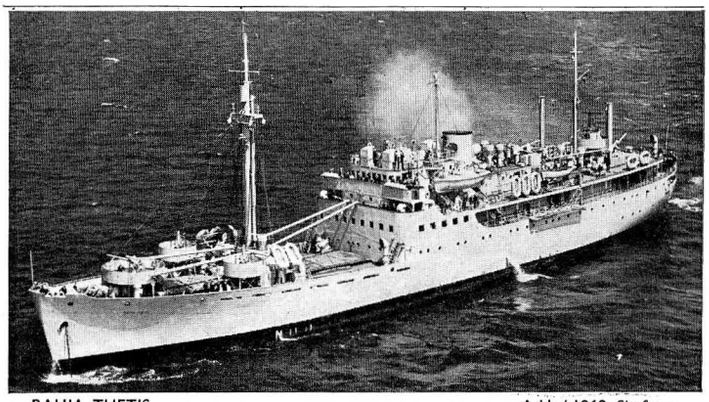
PRESIDENTE SARMIENTO

Displacement:	2,850 tons
Dimensions:	251½ × 43½ × 23½ feet
Guns:	2—40 mm. AA. Bofors, 6—47 mm. *saluting*
Machinery:	Compound. I.H.P.: 2,800=12 kts.
Boilers:	1 Niclausse, 1 Yarrow, 2 cylindrical single-ended
Coal:	370 tons
Radius:	4,300 miles at 10 kts.
Complement:	294

Notes
Built by Laird Bros., Birkenhead. Launched in 1898. Sheathed and coppered. Built as Training Ship for boys and named after Domingo Faustino Sarmiento, who founded the Naval School after being elected President of the Republic in 1868. Refitted in 1940-41. Three above water torpedo tubes suppressed. Pennant No. Q 1.

Recent Disposals
The very old river monitors *Parana* and *Rosario* were withdrawn from service in 1958.

TRANSPORTS (*Transportes*)

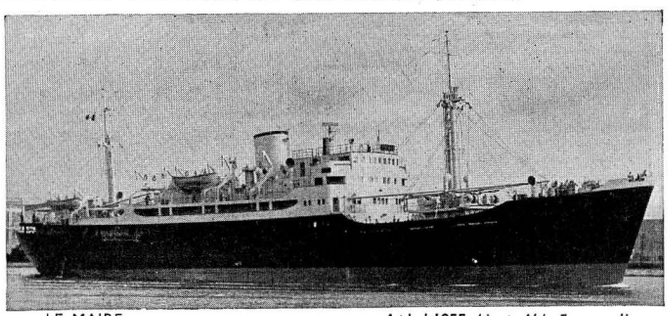


BAHIA THETIS *Added 1960, Skyfotos*

BAHIA AGUIRRE **BAHIA BUEN SUECESCO** **BAHIA THETIS**

Displacement:	3,100 tons *standard* (5,000 tons *full load*)
Dimensions:	334⅔ × 47 × 18¾ feet
Guns:	(*Bahia Thetis*) 2—4·1 inch, 2—40 mm. Bofors AA., 2—20 mm NA. AA., 4—47 mm. saluting (*Bahia Aguirre*) 2—20 mm. NA. AA.
Machinery:	2 sets Nordberg diesels. 2 shafts. B.H.P.: 3,750=16 kts.
Oil fuel:	500 tons (*Bahia Thetis*), 422 tons (*Bahia Buen Suecesco*), 355 tons (*Bahia Aguirre*)
Radius:	15,000 miles
Complement:	100

Notes
Built in Canada by Halifax Shipyards. *Bahia Buen Suecesco* was completed at Halifax, Nova Scotia, in June 1950. Pennant Nos. B 2, B 6 and B 8, respectively. First two are troop transports. *Bahia Thetis* is used as a training ship and carries guns (see above).



LE MAIRE *Added 1955, Lieut. Aldo Fraccaroli*

LA PATAIA **LE MAIRE** **LES ECLAIRSEUR**

Displacement:	3,825 tons *standard* (6,000 tons *full load*)
Dimensions:	335¼ × 50¼ × 23 feet
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 3,400=16 kts.
Oil fuel:	500 tons
Radius:	15,000 miles
Complement:	100

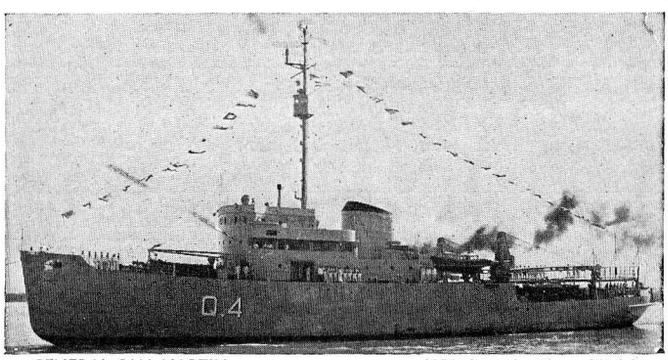
Notes
Built in Italy by C. R. del Adriatico (CRDA). Laid down on 12 Apr. 1948 (*Le Maire* on 25 Apr.), launched on 25 June, 22 Oct. and 30 Mar., 1949, respectively and all completed in June 1950 being delivered on 2 Oct. 1951. Pennant Nos. B 10, B 11 and B 9, respectively. Troop transports.

BEAGLE

Measurement:	1,140 tons *deadweight*
Dimensions:	169 × 29½ × 11 feet
Machinery:	1 Humbol Deutch diesel. B.H.P.: 800
Oil fuel:	63 tons

Notes
Built in Bremer-Haven. Launched in 1952. Completed in 1953. Purchased in 1958. The transport *Ushuaia* has been reclassified as a surveying vessel (see previous page). The transport *San Julian* is being converted into a salvage vessel (see next page).

RESEARCH VESSEL AND ICEBREAKER



GENERAL SAN MARTIN 1955, *Argentine Navy, Official*

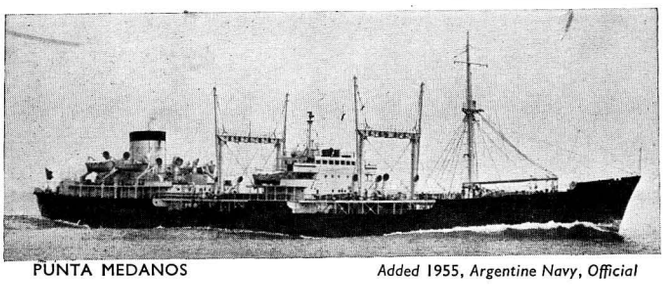
(*Rompehielos*)

GENERAL SAN MARTIN

Displacement:	4,854 tons *standard* (5,301 tons *full load*) officially revised figures
Measurement:	1,600 tons *deadweight*
Dimensions:	279 × 61 × 21 feet
Guns:	1—4·1 inch, 2—40 mm. AA. Bofor
Aircraft:	1 reconnaissance aircraft and 1 helicopter
Machinery:	4 diesel-electric. 2 shafts. H.P.: 7,100=16 kts.
Endurance:	37,000 miles
Oil fuel:	1,100 tons
Complement:	160

Notes
Built by Seebeck Yard of Weser A.G. Launched on 24 June 1954. Completed in Oct. 1954. Used by the Antarctic Institute. Fitted for icebreaking. Specially insulated against cold.

OILERS (*Buques Tanques*)

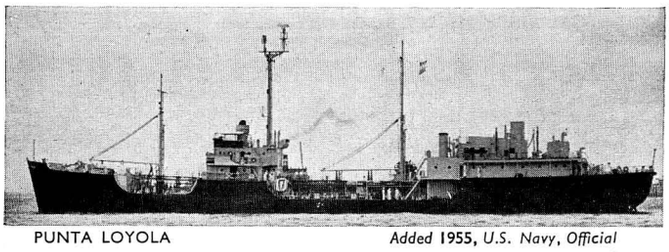


PUNTA MEDANOS — *Added 1955, Argentine Navy, Official*

PUNTA MEDANOS

Displacement:	14,352 tons *standard* (16,331 tons *full load*)
Measurement:	8,250 tons *deadweight*
Dimensions:	470 (*pp.*), 502 (*o.a.*) × 62 × 28½ feet
Machinery:	Double reduction geared turbines. 2 shafts. S.H.P.: 9,500
Boilers:	2 Babcock & Wilcox two-drum integral furnace water-tube
Speed:	Over 19 kts. obtained on trials
Oil fuel:	1,500 tons
Radius:	13,700 miles
Complement:	99

Notes
Built by Swan, Hunter & Wigham Ltd., Wallsend-on-Tyne. Launched on 20 Feb. 1950. Completed on 10 Oct. 1950. In her equipment this ship, a unit of the Argentine Navy available as a training vessel for personnel, is the embodiment of experience gained in modern fleet oilers, and was the finest and fastest of her type afloat. Fitted for fuelling warships at sea. Boilers built under licence by the Wallsend Slipway & Engineering Company. Steam conditions of 400 lb. per sq. in. pressure and 750 deg. F. temperature. Pennant No. B 18.



PUNTA LOYOLA — *Added 1955, U.S. Navy, Official*

PUNTA DELGADA (ex-*Sugarland*, ex-*Nanticoke*, *AOG 66*)
PUNTA LOYOLA (ex-*Capitan*, ex-*Klickitat*, *AOG 64*)
PUNTA NINFAS (ex-*Black Bayou*, ex-*Michigamme*, *AOG 65*)

Displacement:	5,930 tons *standard* (6,090 tons *full load*)
Dimensions:	325 × 48¼ × 20 feet
Machinery:	Westinghouse diesel. 1 shaft. B.H.P.: 1,400 = 11·5 kts.
Oil fuel:	150 tons
Radius:	9,000 miles
Complement:	72

Notes
Bear names of geographical locations. All U.S.M.S. type TI-M-BTI. All built by St. John's River S.B. Co. Launched on 7 Apr. 1945, 24 Mar. 1945 and 31 May, 1945, respectively.

PUNTA CIGUEÑA (ex-*Sulphur Bluff*) **PUNTA RASA** (ex-*Salt Creek*)

Displacement:	2,055 tons *standard* (2,253 tons *full load*)
Dimensions:	221 × 37 × 13¾ feet
Machinery:	Diesel. 1 shaft. B.H.P.: 800 = 10 kts.
Oil fuel:	60 tons
Radius:	3,500 miles
Complement:	37

Notes
Commissioned in 1947. Named after Capes. U.S. M.C. type TI-M-A2.

No.	*Name*	*Builders*	*Launched*	*Completed*
B 13	*Punta Cigueña*	Todd Galveston Drydocks Inc.	1944	Mar. 1944
B 14	*Punta Rasa*	Bames Dulath S.B. Co.	1943	1944

PUNTA ALTA

Displacement:	1,600 tons *standard* (1,900 tons *full load*)
Measurement:	800 tons *deadweight*
Dimensions:	210 × 33¾ × 12½ feet
Machinery:	Diesel. 1 shaft. B.H.P.: 1,850 = 8½ kts.
Oil fuel:	146 tons
Radius:	4,700 miles

Notes
Built at Puerto Belgrano. Launched in 1937. Named after a headland. Pennant No. B 12.

SALVAGE VESSEL

SAN JULIAN (ex-*FS 281*)

Displacement:	930 tons
Dimensions:	176 × 32½ × 11 feet
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 1,000 = 10 kts.
Oil fuel:	75 tons
Complement:	40

Notes
Ex-U.S. Army small cargo carrier. Built by Wheeler Shipbuilding Corpn. Launched in 1944. Pennant No. B7. It was officially stated in May 1960 that this vessel, formerly rated as a transport, is being converted into a salvage vessel.

TUGS (*Remolcadores*)

PEHUENCHE **TONOCOTE**

Displacement:	330 tons
Dimensions:	105 × 24⅜ × 12½ feet
Machinery:	Triple expansion. I.H.P. : 600 = 11 kts.
Boilers:	2
Oil fuel:	36 tons
Radius:	1,200 miles
Complement:	13

Notes
Both built in Rio Santiago Naval Yard. Commissioned for service in 1954.

CHARRUA (ex-U.S. Army *LT-224*)

Displacement:	982 tons
Dimensions:	149¼ × 34 × 13½ feet
Guns:	2—20 mm. NA. AA.
Machinery:	Unaflow steam engine. 1 shaft. H.P.: 1,200 = 12 kts.
Boilers:	2
Oil fuel:	417 tons
Range:	9,500 miles
Complement:	37

Notes
Salvage tug. Built by Marietta Manufacturing Co. U.S.A., in 1945. Fitted as rescue ship. Sister ship *Guarani* was lost without trace in the Straits of Magellan on 15 Oct. 1958.

CHIRIGUANO (ex-U.S. *ATA 227*) **SANAVIRON** (ex-U.S. *ATA 228*)
DIAGUITA (ex-U.S. *ATA 124*) **YAMANA** (ex-U.S. *ATA 126*)

Displacement:	689 tons *standard* (800 tons *full load*)
Dimensions:	133⅜ (*w.l.*), 143 (*o.a.*) × 34 × 12 feet
Guns:	2—20 mm. N.A. AA.
Machinery:	Diesel-electric. B.H.P.: 1,850 = 12 5 kts.
Oil fuel:	154 tons
Radius:	16,700 miles
Complement:	49

Notes
Ocean salvage tugs. Built by Levingstone Shipbuilding Co., Orange, Texas, U.S.A., in 1945. *Diaguita* and *Yamana* are fitted as rescue ships. All five of above ships bear names of South American Indian tribes.

Recent Disposal
The salvage tug *Ranquel* has been withdrawn from service and deleted from the list, it was officially stated in May 1960.

MATACO **TOBA**

Displacement:	600 tons
Measurement:	339 tons *gross*
Dimensions:	130½ (*pp.*), 137 (*w.l.*) 139 (*o.a.*) × 28½ × 11½ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,200 = 12 kts.
Boilers:	2
Oil fuel:	95 tons
Radius:	3,900 miles
Complement:	34

Notes
Both built by Hawthorn Leslie, Ltd., Hebburn-on-Tyne. Launched on 24 Jan. 1928 and 23 Dec. 1927, respectively. Both completed in Mar. 1928.

ONA **QUERANDI**

Displacement:	615 tons
Measurement:	345 tons *gross*
Dimensions:	134½ × 30 × 11 feet
Machinery:	Triple expansion. I.H.P.: 1,300 = 12 kts.
Boilers:	2
Oil fuel:	115 tons
Radius:	2,400 miles
Complement:	34

Notes
Built by John J. Thornycroft & Co Ltd., Woolston, Southampton. Launched in 1913.

ALBANIA

Personnel: 1960: 1,500 officers and men.

Ships: In addition to the ships listed below, eight Soviet submarines are based in Albania.

PATROL VESSELS

4 Ex-U.S.S,R "Kronstadt" Class

Displacement:	300 tons
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth bomb projectors
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts = 27 kts.
Oil fuel:	20 tons
Complement:	40

Notes
Russian built "Kronstadt" class submarine chasers, transferred to Albania in 1958.

INSHORE MINESWEEPER

2 Ex-U.S.S.R. "T 301" Class

Displacement:	130 tons
Dimensions:	100 × 16 × 4½ feet
Guns:	2—20 mm. AA., 4 M.G.
Machinery:	Diesel. B.H.P.: 480 = 10kts.
Complement:	30

Notes
Russian built "T 301" class inshore minesweepers, transferred to Albania in 1957.

MOTOR TORPEDO BOATS

5 Ex-U.S.S.R. "P-4" Class

Displacement:	40 tons
Guns:	2—25 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed = 35 kts.

Notes
Russian built "P-4" class fast patrol boats acquired in 1955.
It is reported that there are 14 motor torpedo boats in the Albanian Navy comprising five Soviet P-4 class, Italian MAS 501 class, and U.S. 70-ft. Vosper class.

MINESWEEPING BOATS

3 Ex-U.S.S.R. "KM 4/5" Class

Displacement:	20 tons
Guns:	2—13 mm. AA. M.G.
Machinery:	Speed = 32 kts.

Notes
In addition to the above there are reported to be 16 small patrol craft for coastal duties.

BELGIUM

Administration

The Marine Militaire (Force Navale) is attached to the Ministry of National Defence.

Chief of Naval Staff:
Commodore L. J. J. Robins, A.D.C.

Naval, Air and Military Attaché in London:
Colonel L. Tancre.

Personnel

1960: 5,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping
212 vessels of 728,316 tons *gross*

The Marine de l'Etat (State Marine) is under the Ministry of Communications

COASTAL ESCORTS (*Escorteurs Cotiers*)

4 Ex-British "Algerine" Class

A. F. DUFOUR (ex-H.M.C.S. *Winnipeg*)
DE BROUWER (ex-H.M.S. *Spanker*)
DE MOOR (ex-H.M.S. *Rosario*)
G. LECOINTE (ex-H.M.C.S. *Wallaceburg*)

Displacement: 1,040 tons (1,335 tons *full load*)
Dimensions: 213¼ (*pp.*), 226⅜ (*o.a.*) × 35½ × 10 to 11½ (*max.*) feet
Guns: 1—4 inch, 4—40 mm. AA. (8—20 mm. AA. in *A. F. Dufour* and *G. Lecointe*)
A/S Weapons: 4 D.C.T. (1 Hedgehog in *A. F. Dufour* and *G. Lecointe*)
Machinery: Geared turbines. (Triple expansion in *A. F. Dufour* and *G. Lecointe*).2 shafts. S.H.P.: 2,000=16 kts.
Boilers: 2, of 3-drum type
Oil fuel: 235 tons
Radius: 4,000 miles at 10 kts.
Complement: 101

Pennant No.	*Name*	*Transferred*
F 903	*A. F. Dufour*	7 Aug. 1959
F 904	*de Brouwer*	25 Feb. 1953
F 905	*de Moor*	13 Jan. 1953
F 901	*G. Lecointe*	31 July 1959

Name	*Begun*	*Launched*	*Completed*
A. F. Dufour		19 Sep. 1942	1943
de Brouwer	22 Sep. 1942	20 Apr. 1943	9 July 1943
de Moor	22 Sep. 1942	3 Apr. 1943	20 Aug. 1943
Lecointe		17 Dec. 1942	1943

Notes
Formerly Britsh ocean minesweepers. Officially reclassified as coastal escorts in 1959. *De Brouwer* and *De Moor* were built by Harland and Wolff, Ltd., Belfast, and *A. F. Dufour* and *G. Lecointe* by Port Arthur Shipbuilding Co., Ontario. *De Brouwer* and *De Moor* are tropicalised for service in African waters. *A. F. Dufour* (ex-*Fancy*) was relegated to a stationary training ship in 1959 and renamed *Nzadil*. *Georges Lecointe* (ex-*Cadmus*) was scrapped in 1959, and *Jan Van Howerbeke* (ex-*Ready*) in 1960. The present *A. F. Dufour* (ex-*Winnipeg*) and *G. Lecointe* (ex-*Wallaceburg*) were transferred from Canada at Esquimalt. B.C. and Sydney, Nova Scotia, on 7 Aug. 1959 and 31 July 1959, respectively. *Adrien de Gerlache* (ex-*Liberty*) was reclassified as an auxiliary (A 954) in 1960 (*batiment logistique*).



DE MOOR

Added, 1960, Wright & Logan

FLEET (WOODEN) MINESWEEPERS (Rated as *Draguers de Haute Mer*)

4 U.S. MSO (ex-AM) Type 498

ARTEVELDE (ex-*MSO* 503, ex-*AM* 503)
BREYDEL (ex-*MSO* 504, ex-*AM* 504)
F. BOVESSE (ex-*MSO* 516, ex-*AM* 516)
G. TRUFFAUT (ex-*MSO* 515, ex-*AM* 515)

Displacement: 720 tons *light* (780 tons *full load*)
Dimensions: 165 (*w.l.*) 172½ (*o.a.*) × 35 × 9½ (11 *max.*) feet
Guns: 1—40 mm. Bofors AA.
Machinery: 2 General Motors diesels. 2 shafts. B.H.P.: 1,600=14 kts. (*max*)
Oil fuel: 50 tons
Range: 2,400 miles at 12 kts.
Complement: 72

Note.
U S *AM* 498 class minesweepers. Wooden hulls and non-magnetic equipment. Capable of sweeping all modern mines of any type. Diesels of non-magnetic stainless steel alloy Controllable pitch propellers. The names given to *Artevelde* and *Breydel* commemorate those of twelfth-century Flemish patriots. *Artevelde* was transferred to the Belgian Navy by the U.S. Navy on 15 Dec. 1955 at Seattle, Wash., U.S.A., under the Mutual Defense Assistance Program. *Breydel* was delivered at Seattle, 15 Feb. 1956. Both built by Tacoma Boatbuilding Co. Tacoma, Wash. other two by Tampa Shipbuilding Co. Inc. Tampa Fla.

Pennant No.	*Name*	*Builders*	*Transferred*
M 907	*Artevelde*	Tacoma	15 Dec. 1955
M 906	*Breydel*	Tacoma	15 Feb. 1956
M 909	*F. Bovesse*	Tampa	12 Oct. 1956
M 908	*G. Truffaut*	Tampa	25 Jan. 1957

Name	*Begun*	*Launched*	*Completed*
Artevelde	1953	19 June 1954	15 Dec. 1955
Breydel	1954	25 Mar. 1955	15 Feb. 1956
F. Bovesse	1954	1956	12 Oct. 1956
G. Truffaut	1955	1955	25 Jan. 1957



BREYDEL

1957, Belgian Navy, Official

TRANSPORTS (*Unites de Transport*)

Ex-German Submarine Support Ship

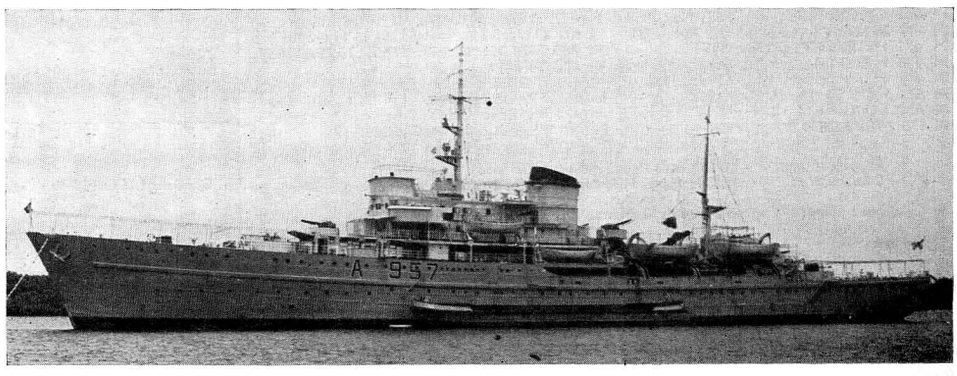
KAMINA (ex-*Royal Harold* ex-*Herman von Wissmann*)

Displacement: 3 900 tons *standard* (5,750 tons *full load*)
Dimensions: 344½ (*pp.*) 374 (*o.a.*) × 48¼ × 18¼ feet
Guns: 2—3 inch, 4—40 mm. AA., 2—20 mm. AA.
Machinery: 1 B. & W. Diesel. 1 shaft. B.H.P.: 3,600 = 15 kts. (cruising)
Radius: 10,000 miles at economical speed
Complement: 175. Troop capacity 650.

Notes
Built in 1940 at Hoboken, Antwerp, by J. Cockerill for Poland. Seized by Germans and used as support ship for U-boats in Norway. Transferred to Britain 1945, and finally given to Belgium in Oct. 1950. Pennant No. AP 957 (ex-AP 907). Naval auxiliary officially classified as *Transport de Troupes*.

A. DE GERLACHE (ex-British Ocean Minesweeper)

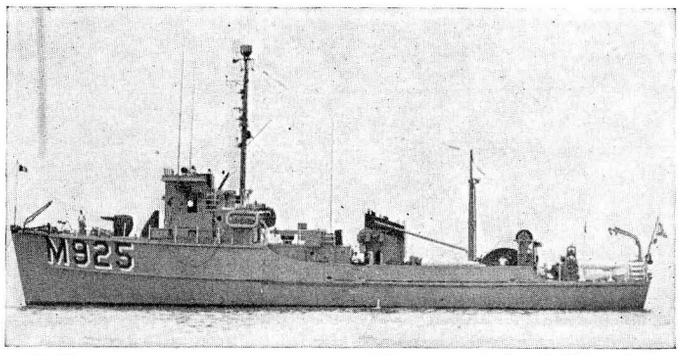
Notes
Former British ocean minesweeper of the "Algerine" class, subsequently reclassified as a coastal escort and again re-rated as a *bâtement logistique* in 1960. See full particulars and photograph in the 1959-60 edition. Pennant No. A 954



KAMINA

1957, Belgian Navy, Official

COASTAL MINESWEEPERS
(Draguers de Mines Côtiers)



M 925 1958, *courtesy Godfrey H. Walker, Esq.*

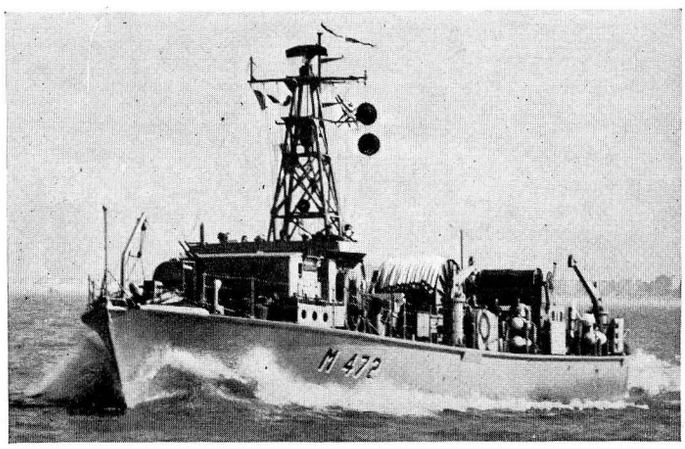
26 U.S. MSC (ex-AMS) Type 60

M 915 ARLON (ex-*MSC* 104)
M 916 BASTOGNE (ex-*MSC* 151)
M 923 BLANKENBERGHE (ex-*MSC* 170)
M 917 CHARLEROI (ex-*MSC* 152)
M 925 DE PANNE (ex-*MSC* 131)
M 910 DIEST (ex-*MSC* 77)
M 920 DIKSMUIDE (ex-*MSC* 65)
M 911 EEKLO (ex-*MSC* 101)
M 929 HEIST
M 921 HERVE (ex-*MSC* 153)
M 931 KNOKKE
M 933 KOKSIJDE
M 924 LAROCHE (ex-*MSC* 171)
M 912 LIER (ex-*MSC* 63)
M 913 MAASEIK (ex-*MSC* 78)
M 922 MALMEDY (ex-*MSC* 154)
M 926 MECHELEN
M 932 NIEUWPOORT
M 930 ROCHEFORT
M 914 ROESELAERE (ex-*MSC* 103)
M 918 ST. NIKLASS (ex-*MSC* 64)
M 919 ST. TRUIDEN (ex-*MSC* 169)
M 927 SPA
M 928 STAVELOT
M 934 VERVIERE (ex-*MSC* 259)
M 935 VEURNE (ex-*MSC* 260)

Displacement:	330 tons *light* (390 tons *full load*)
Dimensions:	139 (*pp.*), 144 (*o.a.*) × 27⅞ × 7½ to 8½ feet
Guns:	2—20 mm. (twin mount)
Machinery:	2 G.M. Diesels. 2 shafts. B.H.P.: 880 = 13.5 kts. (*max.*)
Oil fuel:	28 tons
Range:	2,700 miles at economical speed (10.5 kts.)
Complement:	40

Notes
Motor minesweepers of wooden construction. New type of vessel constructed throughout of material with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. M 910-925, 934 and 935 were built in U.S.A., under MDAP, and M 926-933 of same type were built in Belgium under MAP with machinery and armament from U.S.A. M 910 (ex-MSC 77, ex-AMS 77) turned over 12 May 1953, at Boston, M 919 (ex-MSC 169, ex-AMS 169) turned over 25 Feb. 1954, at New York Naval Shipyard, Brooklyn. M 925 (ex-MSC 131, ex-AMS 131) transferred 28 Oct. 1955. M 934 (ex-MSC 259) turned over 19 June 1956. M 935 (ex-MSC 260) was transferred on 7 Sep. 1956. M 926 to 933 were all laid down in 1953-54 and launched and completed in 1954-55.

INSHORE MINESWEEPERS
(Drageurs de Mines de Petits Fonds)



KORTRIJK 1959, *Belgian Navy, Offiicial*

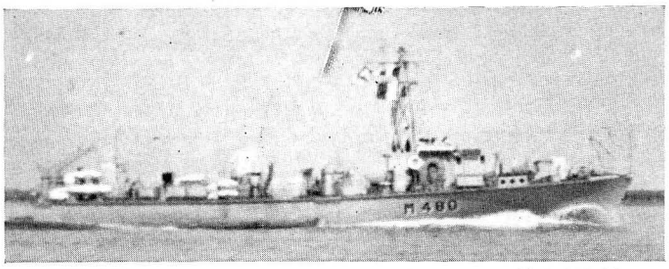
16 MSI "Ham" Type. "Herstal Class"

M 485 ANDENNE (ex-*MSI* 97) May 1958
M 484 DINANT (ex-*MSI* 96) 5 Apr. 1958
M 471 HASSELT 17 Nov. 1956
M 478 HERSTAL (ex-*MSI* 90) 6 Aug. 1956
M 479 HUY (ex-*MSI* 91) 17 Nov. 1956
M 472 KORTRIJK 16 Mar. 1957
M 473 LOKEREN 18 May 1957
M 476 MERKSEM 5 Apr. 1958
M 477 OUDENARDE May 1958
M 483 OUGREE (ex-*MSI* 95) 16 Nov. 1957
M 480 SERAING (ex-*MSI* 92) 16 Mar. 1957
M 470 TEMSE 6 Aug. 1956
M 475 TONGEREN 16 Nov. 1957
M 481 TOURNAI (ex-*MSI* 93) 18 May 1957
M 474 TURNHOUT 7 Sep. 1957
M 482 VISE (ex-*MSI* 94) 7 Sep. 1957

Displacement:	160 tons *light* (180 tons *full load*)
Dimensions:	106¾ (*pp.*), 113½ (*o.a.*) × 22½ × 6 to 7 (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels, 2 shafts. Speed: 15 kts. (*max.*)
Oil fuel:	18 tons
Range:	2,300 miles at 10 kts.
Complement:	17

Notes
New MSI type. Modified AMI "100-foot" class. All built in Belgium. The first four MSI were launched in 1956. *Herstal* and *Temse* were both launched at the Mercantile Marine Yard, Kruibche, on 6 Aug. 1956, followed by another pair in 1956, and four more pairs in 1957 (see launch dates above). *Herstal* was completed in June 1957. The first group of eight (M 478 to 485) was a United States "off shore order," the remaining eight (M 470 to 477) being financed under the Belgian Navy Estimates.

Inshore Minesweepers—*continued*



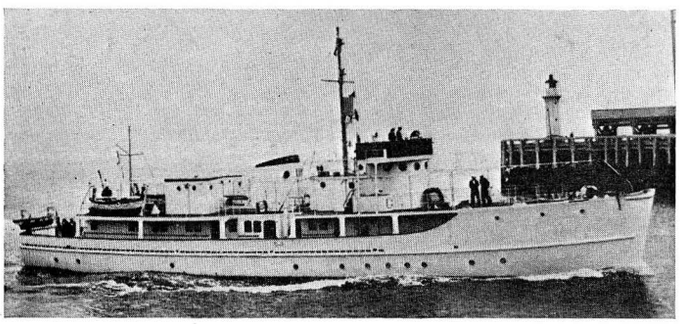
SERAING 1958, *courtesy Admiral M. Adam*

TRAINING SHIPS

Ex-British "Algerine" Type Ocean Minesweeper

NZADI (ex-*A.F. Dufour*, ex-H.M.S. *Fancy*)

Notes
Former British ocean minesweeper of the "Algerine" class, subsequently re-classified as a coastal escort, and again re-rated as a *stationaire-ecole* in 1959 and renamed *Nzadi*. For full particulars see 1959-60 edition and "Algerine" class on previous page. Photograph in the 1953-54 to 1957-58 editions.



EUREKA 1959, *Belgian Navy, Official*

Ex-U.S. BYMS Type. Coastal Minesweeper

EUREKA (ex-*BYMS* 11, ex-*Young Joe*) QM 900

Displacement:	300 tons
Dimensions:	136 × 25½ × 8 (*max.*) feet
Machinery:	2 diesels. 2 shafts. B.H.P: 1,000 = 15 kts.
Radius:	5,500 miles at economical speed
Complement:	14

Notes
Combined yacht and training ship. Refitted in 1957. Former American auxiliary motor minesweeper. Built at Seattle, Washington, U.S.A., by Associated Shipbuilders, in Sep. 1942. Acquired by Belgium in 1956.

RIVER PATROL BOATS



1957, *Belgian Navy, Official*

DENDER **LIBERATION** **OURTHE** **SAMBRE** **SEMOIS**
LEIE **MEUSE** **RUPEL** **SCHELDE** **YSER**

Displacement:	25 tons *light* (27.5 tons *full load*)
Dimensions:	75½ (*pp.*), 82 (*o.a.*) × 12½ × 3 feet (*Liberation* 85⅓ × 13⅛ × 3¼ feet)
Guns:	2 M.G.
Machinery:	2 Diesels. 2 shafts. B.H.P.: 440 = 19 kts.
Complement:	7

Notes
Built at the Theodor Shipyards of Regensburg, Germany, in 1953, except *Dender*, *Liberation*, *Ourthe*, *Rupel*, in 1954. First seven boats constitute the Belgian Naval Rhine Squadron at Niehl.

TUGS

SUB-LIEUTENANT VALCKE

Displacement:	110 tons
Dimensions:	78¾ (*pp.*), 95 (*o.a.*) × 21 × 5½ feet
Machinery:	1 Diesel. 1 shaft. B.H.P.: 600 × 12 kts.
Complement:	14

Notes
Built in Haarlem, Netherlands in 1951. Pennant No. A 950. Photo in 1957/58 edition.

There are also two harbour tugs (*remorqueurs portuaires*), namely *Hommel* and *Wesp*, displacement 22 tons, length 43 feet, with 300 B.H.P. diesels and Voigt Schneider propellers, built in Germany in 1953; three barges, namely *FN* 1, *FN* 2 and *FN* 3, displacement 300 tons, length 105 feet, built in the Netherlands; the ammunition ship *Ekster* displacement 140 tons, length 118 feet, built in Belgium in 1953; the harbour craft *Benga*, length 55 feet, beam 13 feet, one diesel, 110 h.p., built in Belgium in 1955; and the diving cutter *ZM* 4, displacement 50 tons, length 33 feet, built in Belgium in 1953.

BRAZIL

Administration

Minister of Marine:
Almirante de Esquadra Jorge do Paco Mattoso Maia.

Chief of Naval Staff:
Almirante de Esquadra Jorge da Silva Leite.

Naval Attaché in London:
Captain Luiz Gonzaga Döring

Personnel

1960: 1,700 officers and 41,000 men (including 10,000 marines)

Naval Aviation

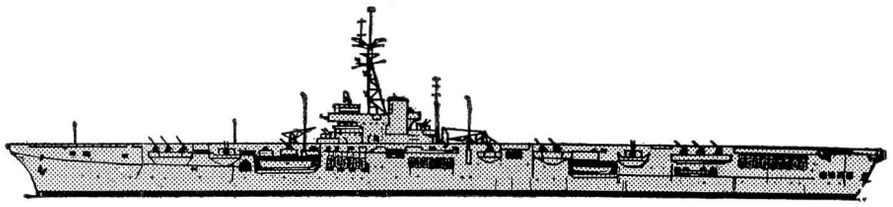
A Fleet Air Arm has been formed.

Mercantile Marine

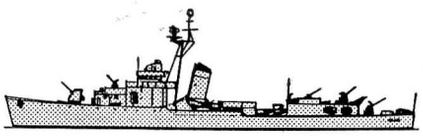
Lloyd's Register of Shipping:
415 vessels of 952,088 tons *gross*.

Silhouettes

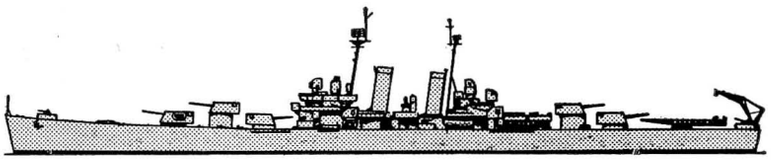
Scale: 150 feet = 1 inch



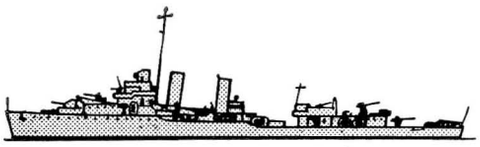
MINAS GERAIS



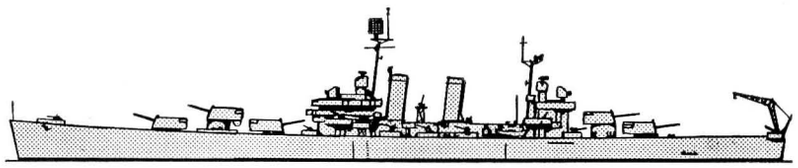
AMAZONAS *Class*



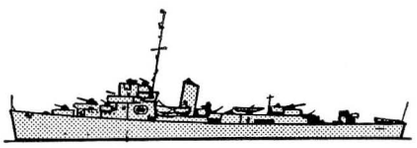
TAMANDARÉ



MARCILIO DIAS *Class*

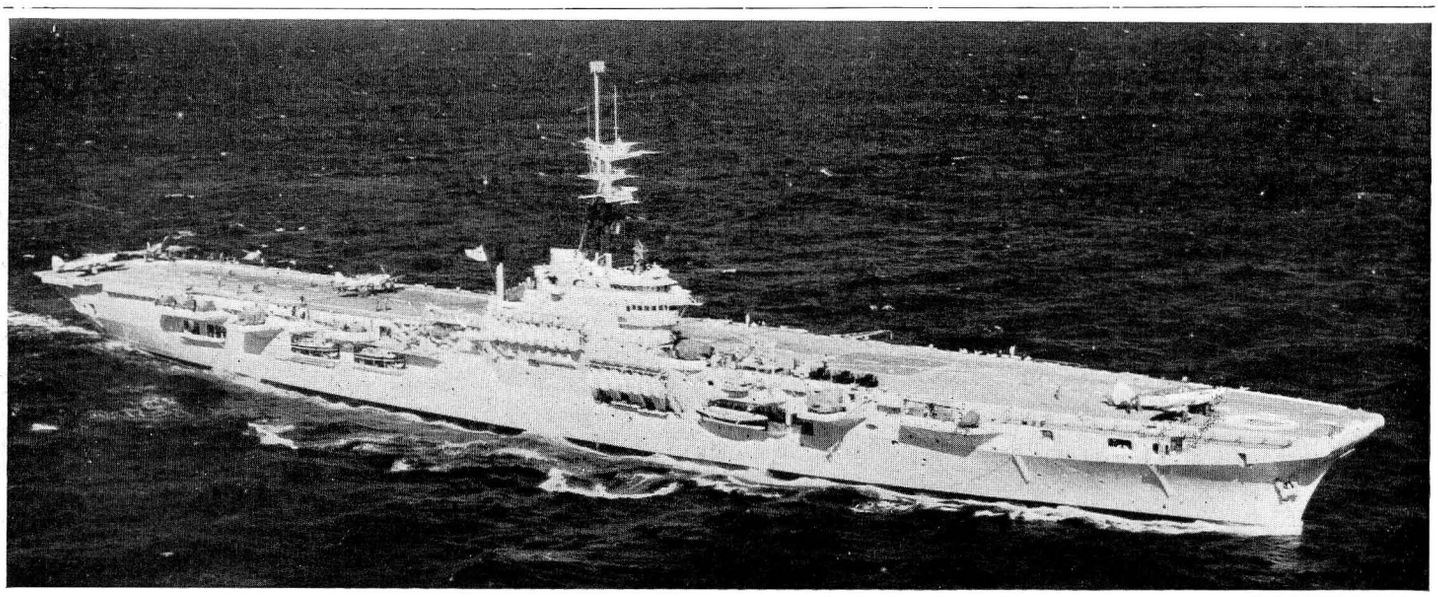


BARROSO



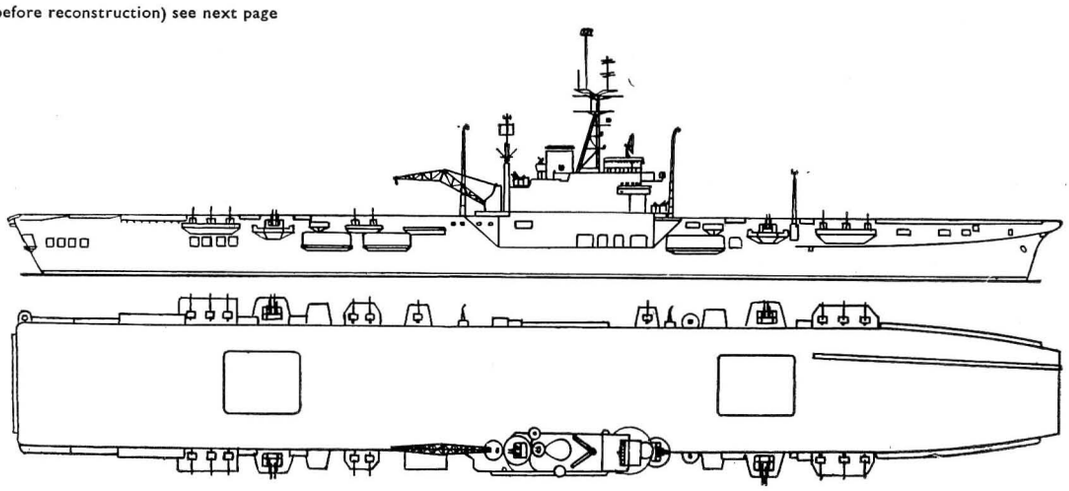
BAURU *Class*

AIRCRAFT CARRIER

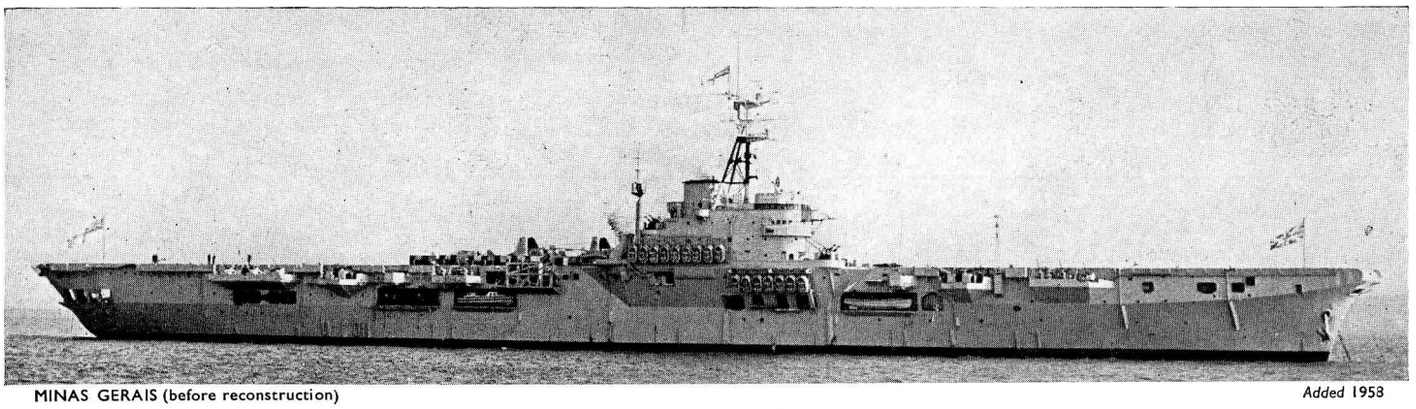


MINAS GERAIS (before reconstruction) see next page

Added 1958, *Official*



Aircraft Carrier—*continued*



MINAS GERAIS (before reconstruction) *Added 1958*

1 Ex-British Type (" Colossus " Class)

MINAS GERAIS (ex-H.M.S. *Vengeance*)

Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
Laid down:	16 Nov. 1942
Launched:	23 Feb. 1944
Completed:	15 Jan. 1945
Displacement:	15,890 tons *standard* (19,890 tons *full load*) revised figures
Dimensions:	Length: 630 (*pp.*), 695 (*o.a.*) feet. Beam: 80 feet. Width: 121 (*o.a.* feet (as reconstructed) Draught: 21½ (*mean*) 23½ (*max*) feet. Flight deck: 690 feet long, 80 feet wide, 39 feet above water line.
Guns:	12—40 mm.AA., 4—3 pdr. saluting
Aircraft:	35 capacity
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (24·25 kts. sea speed)
Boilers:	4 Admiralty 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.; 6,200 miles at 23 kts.
Complement:	1,300 with air group on board

Genera Notes

Served in British Navy from 1945 onwards. Fitted out in late 1948-early 1949 for experimental cruise to Arctic. Lent to the Royal Australian Navy early in 1953, but was returned to the Royal Navy in August 1955. British Admiralty announced on 14 Dec. 1956 that negotiations for the purchase of the aircraft carrier *Vengeance* by the Brazilian Government had been successfully completed and that the ship, after modernisation would be commissioned in the Brazilian fleet under the name of N. Ae L. *Minas Gerais*. Being reconstructed at Verolme Dock, Roterdam, where the work is expected to take about three years. The conversion and overhaul includes the installation of the angled deck, steam catapults, mirror sight deck landing system, and complete armament fire control and radar equipment. The ship was purchased for $16,000,000 and the reconstruction will cost $15,000,000. Scheduled to be commissioned in the late 1960. To be used primarily for anti-submarine warfare aircraft and helicopters.

Engineering Notes

Engines and boilers are arranged *en echelon*, the two propelling machinery spaces having one set of turbines and two boilers installed side by side in each space, on the unit system, so that the starboard propeller shaft is longer than the port shaft. Maximum speed is 25 knots at 225 revolutions per minute. Economical speed is 15 knots at 120 revolutions per minute.

Displacement Notes

The displacement before reconstruction was 13,190 tons *standard* and 18,040 tons *full load*.

Construction Notes

Flight deck is reported to have been strengthened to take aircraft of over 8 tons in weight. Sponsons can be dismantled to the extent of 3½ feet on either side if necessary to allow for passage through Panama Canal. Mercantile type hull. Built to Lloyd's specifications up to main deck with the original intention of converting to commercial service after the war. Damage control: No great measure of vertical sub-division on the sandwich system as it was reckoned that it is better for ships to settle evenly in the event of damage and flooding than to foster capsizing.

Insulated for tropical service and partially air-conditioned.

Operational Notes

Ten arrester wires to take 15,500 lb. aircraft up to 60 knots. Single track catapult for launching 20,000 lb. aircraft at 60 knots. Catapult accelerator gear port side forward. Flight deck originally designed for 14,000 lb. aircraft reinforced to take 20,000 lb. machines.

Hangar Notes

Dimensions of hangar are : Length, 445 feet; width, 52 feet; clear depth, 17½ feet. Dimensions of aircraft lifts are: 45 feet by 34 feet.

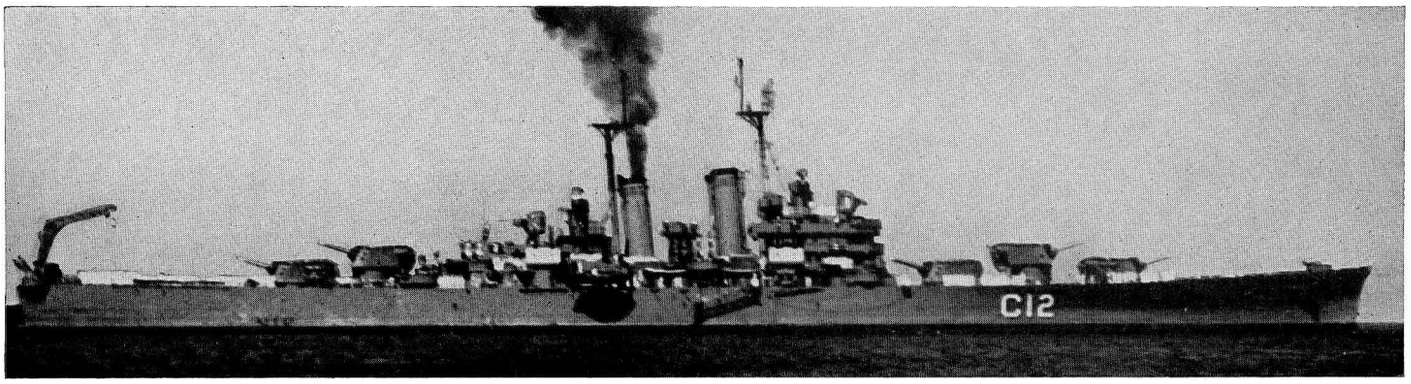
Photograph Notes

Two more photographs (port bow aerial view and starboard bow aerial view) appear in the 1957-58 edition.

Note to Drawing

Starboard elevation and plan before reconstruction. Scale: 128 feet=1 inch.

CRUISERS



TAMANDARÉ *1957, Brazilian Navy, Official*

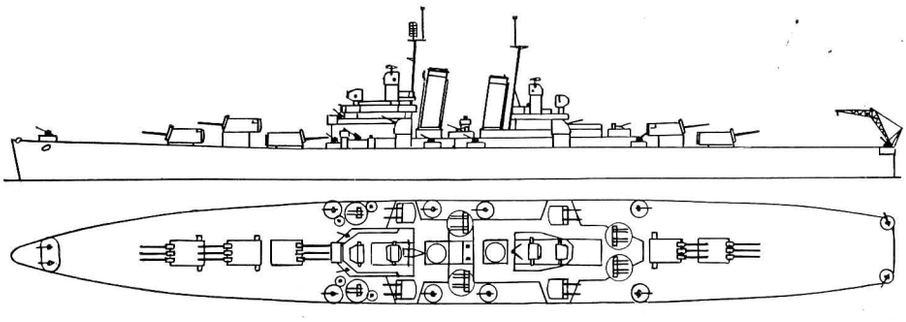
2 Ex-U.S. Type ("Almirante" Class)

TAMANDARÉ (ex-*St. Louis*)

Pennant No.:	C 12
Builders:	Newport News S.B. & D.D. Co.
Laid down:	10 Dec. 1936
Launched:	15 Apr. 1938
Completed:	10 Dec. 1939
Displacement:	10,000 tons *standard*, 13,500 tons *full load*
Dimensions:	Length: 608½ feet (*o.a.*). Beam: 69 feet. Draught: 24 (*max.*) feet
Guns:	15—6 inch, 47 cal., 8—5 inch, 38 cal. (twin dual purpose), 28—40 mm. A.A., 24—20 mm. AA.
Aircraft:	4(normal capacity), could accommodate 6.
Armour:	5—1½" belt, 3"+2" decks, 5"—3" turrets, 8"C.T.
Machinery:	Westinghouse geared turbines, 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	8 Babcock & Wilcox Express type (boiler pressure is higher than in *Barroso*)
Oil fuel:	2,100 tons
Radius:	14,500 miles at 15 kts.
Complement:	975

General Notes

Of same dimensions and generally of similar characteristics, as *Barroso*, but not a sister ship. Formerly CL 49 of the U.S. " St. Louis " class. Purchased from the United States, with the *Barroso*, (transferred on 29 Jan. 1951) for a sum representing 10 per cent. of their original cost ($37,000,000) plus the expense of reconditioning them. *Tamandaré* differs from *Barroso* in having her 5-inch guns mounted in pairs in roomy gunhouses on high bases, a different scheme of boat stowage, a small tripod mast immediately abaft second funnel, and after gunnery control arrangements redistributed. Sister ship *Helena* was sunk in the Battle of Kula Gulf, New Georgia, on 6 July, 1943.



Photograph Notes

Another photograph of *Tamandaré* (port quarter view) appears in the 1953-54 to 1957-58 editions.

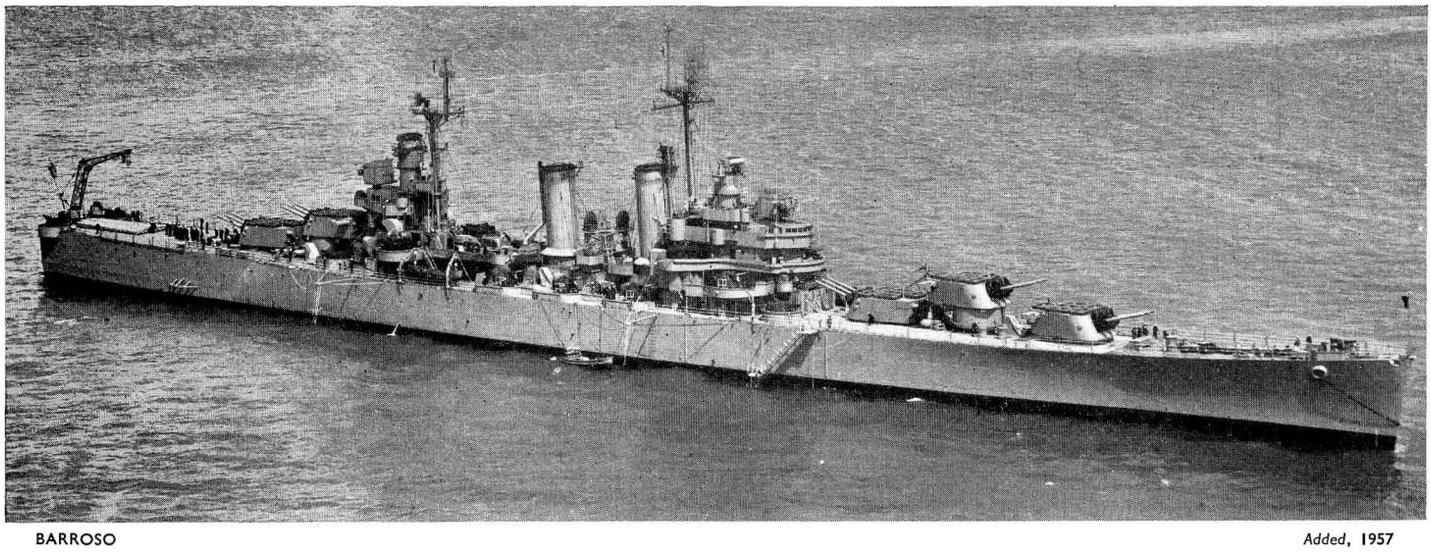
Note to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

Hangar Notes

The hangar in the hull right aft could accommodate 6 aircraft if necessary together with engine spares and duplicate parts, though 4 aircraft has been the normal capacity. The incorporation of this hangar resulted in a very wide and nearly flat counter and high freeboard aft and also gave the after guns higher command. Above the hangar two catapults were mounted as far outboard as possible, and a revolving crane was placed at the stern extremity overhanging the aircraft hatch.

Cruisers—*continued*



BARROSO

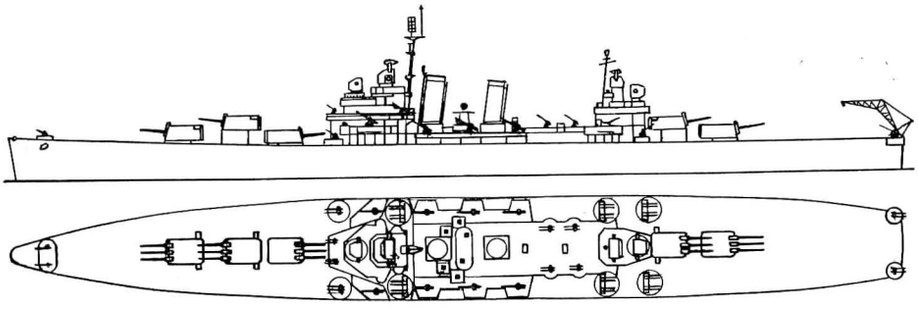
Added, 1957

BARROSO (ex-*Philadelphia*)

Pennant Nos:	C11
Builders:	Philadelphia Navy Yard
Laid down:	28 May 1935
Launched:	17 Nov. 1936
Completed:	28 July 1938
Displacement:	9,700 tons *standard*, 13,000 tons *full load*
Dimensions:	Length: 600 (*w.l.*), 608½ (*o.a.*) feet Beam: 69 feet (with bulges) Draught: 19¾ (*mean*), 24 (*max.*) feet
Guns:	15—6 inch; 47 cal.; 8—5 inch, 25 cal. (single mountings); 28—40 mm. AA.; 24—20 mm. AA
Aircraft:	4 (normal capacity); 6 (maximum accommodation). See *Hangar Notes* above
Armour:	4″ to 1½″ belt, 3″ and 2″ decks, 5″ to 3″ turrets, 8″ conning tower
Machinery:	Westinghouse geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.
Boilers:	8 Babcock & Wilcox Express type
Oil fuel:	2,100 tons
Radius:	14,500 miles at 15 kts.
Complement:	888

General Notes

Formerly the American large light cruiser *Philadelphia*, *CL* 41, of the "Brooklyn" class. Purchased from the United States in 1951 (see *General Notes* under *Tamandaré* on previous page). Originally two catapults were mounted on the quarter deck for launching the aircraft (see *Hangar Notes* under *Tamandaré*). After initial completion the superstructure was reduced, bulges were added and the beam increased. Originally cost $14,750,000. Commissioned in the Brazilian Navy on 21 Aug. 1951.



Class Notes

Sister ship of *Honolulu* and *Savannah* in the United States Navy, *General Belgrano* (ex-*Diecisiete de Octubre*, ex-*Phoenix*) and *Nueve de Julio* in the Argentine Navy, and *O'Higgins* (ex-*Brooklyn*) and *Prat* (ex-*Nashville*) in the Chilean Navy.

Note to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

DESTROYERS (*Contratorpedeiros*)

4 Ex-U.S. "Fletcher" DD Type

("Para" Class)

PARÁ (ex-U.S.S. *Guest*, DD 472)
PARAIBA (ex-U.S.S. *Bennett*, DD 473)
PARANA (ex-U.S.S. *Franks*, DD 554)
PERNAMBUCO (ex-U.S.S. *Knapp*, DD 653)

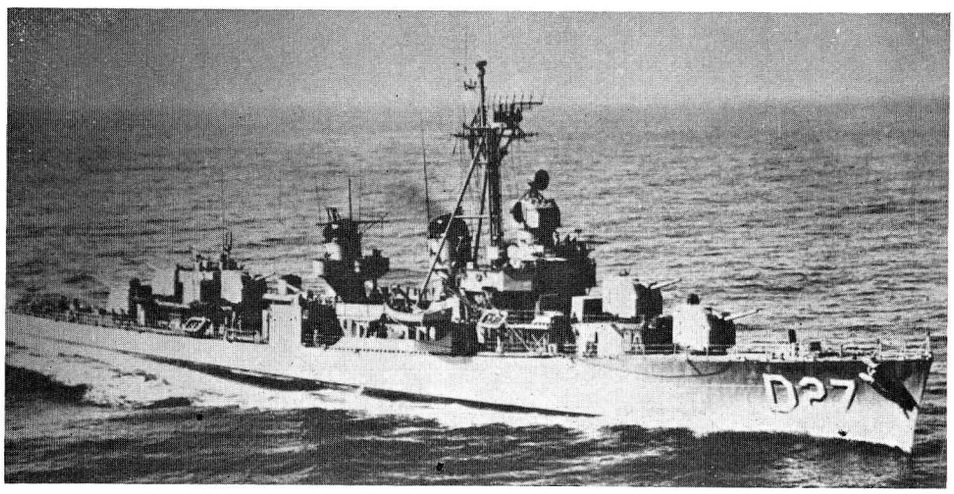
Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39⅓ × 12¼ (mean), 18 (*max.*) feet
Guns:	5—5 inch, 38 cal d.p., 6—40 mm. Bofors, 10—20 mm. Oerlikon.
Tubes:	5—21 inch (quintupled)
A/S weapons:	2 Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks, 2 fixed hedgehogs
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	262 (15 officers, 247 men)

General Notes

Ex-American destroyers *Knapp* of the later "Fletcher" class and the other three of the "Fletcher" class (see particulars in U.S. section). Acquired from the United States on loan for five years, under MDAP in 1959. The *Guest* was transferred to the Government of Brazil at Mutual Assistance Program ceremonies on 5 June 1959 and renamed *Para*. The *Bennett* was transferred to Brazil on 15 Dec. 1959 at Bremerton, Washington, and renamed *Paraiba*.

Photograph Notes

A photograph of *Pará*, D 27 (ex-U.S.S. *Guest*, DD 472), taken alongside the Supply Pier at the Puget Sound Naval Shipyard, Bremerton, Washington appears on page 473 (Addenda) of the 1959-60 edition.



PARÄ (see Photograph Notes)

1960, *Brazilian Navy, Official*

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 27	*Pará*	Boston Navy Yard	27 Sep. 1941	20 Feb. 1942	15 Dec. 1942
D 28	*Paraiba*	Boston Navy Yard	10 Dec. 1941	16 Apr. 1942	9 Feb. 1943
D29	*Paraná*	Seattle-Tacoma S.B. Corpn,. Seattle	8 Mar. 1942	7 Dec. 1942	30 July 1943
D30	*Pernambuco*	Bath Iron Works Corpn.		10 July 1943	15 Sep. 1943

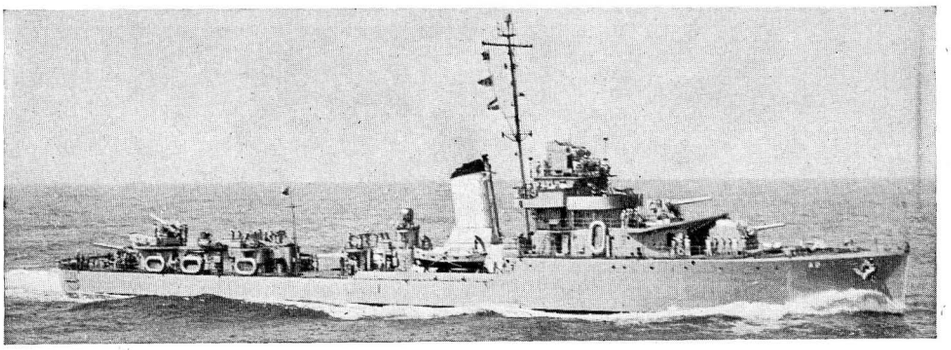
Destroyers—*continued*

6 British Design "Amazones" Class

ACRE **AMAZONAS** **ARAGUARI**
AJURICABA **APA** **ARAGUAYA**

Displacement:	1,450 tons *standard* (1,800 tons *full load*)
Dimensions:	323 (*o.a.*) × 35 × 8½ (*mean*) 9 (*max.*) feet
Guns:	4—5 inch, 2—40 mm. AA., 4—20 mm. AA., 4 D.C.T.
Tubes:	8—21 inch (quadrupled)
Machinery:	Parsons geared turbines. S.H.P.: 34,000=34 kts.
Boilers:	3 of 3-drum type
Oil fuel:	150 tons
Complement:	150

Name	*Laid down*	*Launched*	*Completed*
Acre	28 Dec. 1940	30 May 1945	Dec. 1951
Ajuricaba	28 Dec. 1940	30 May 1945	Dec. 1951
Amazonas	20 July 1940	29 Nov. 1943	10 Nov. 1949
Apa	28 Dec. 1940	30 May 1945	Dec. 1951
Araguaya	20 July 1940	24 Nov. 1943	3 Sep. 1949
Araguari	28 Dec. 1940	1945	Dec. 1951



ARAGUAYA — 1952, *Brazilian Navy, Official*

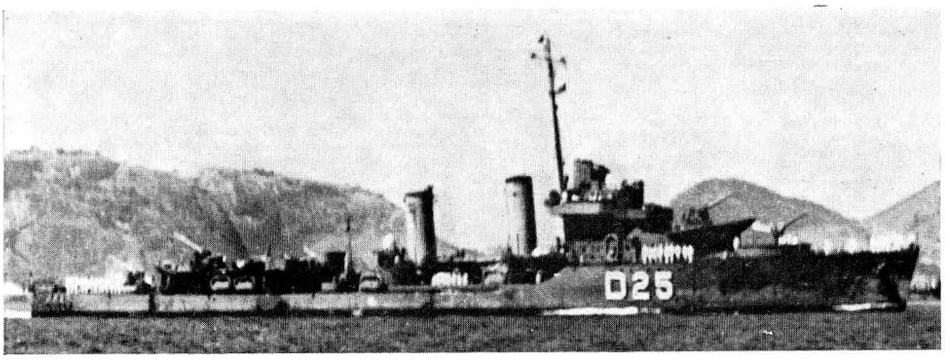
Notes
All built by Ilha das Cobras, Rio de Janeiro, to a British design. All named after rivers. Designated CT. Refitted with tripod mast. Pennant Nos. changed from A 4, A 3, A 1, A 6, A 2, and A 5, respectively, to D 10, D 11, D 12, D 13, D 15, and D 14.

3 U.S.A. Design. "Greenhalgh" Class

GREENHALGH **MARCÍLIO DIAS**
MARIZ E BARROS

Displacement:	1,500 tons *standard* (2,200 tons *full load*)
Dimensions:	341 (*pp.*), 360 (*o.a.*) × 35 × 10 (*mean*) 12 (*max.*) feet
Guns:	4—5 inch, 38 cal. (d.p.), 4—40 mm. AA., 4—20 mm. AA.
Tubes:	4—21 inch (quadrupled)
Machinery:	Geared turbines by General Electric Co. S.H.P.: 42,800=36·5 kts.
Boilers:	4 high-pressure watertube of Express type by Babcock & Wilcox
Oil fuel:	550 tons
Radius:	6,000 miles
Complement:	190

Pennant No.	*Name*	*Launched*	*Completed*
D 24	*Greenhalgh*	8 July 1941	1944
D 25	*Marcilio Dias*	20 July 1940	1943
D 26	*Mariz e Barros*	28 Dec. 1940	1944



MARCILIO DIAS — 1960, *Brazilian Navy, Official*

Notes
All of U.S.A. design and built at Ilha das Cobras, Rio de Janeiro, with material from U.S.A. These ships are generally similar to destroyers of the U.S. Navy, and are armed with guns of American manufacture. All three were laid down in 1937 and commissioned on 29 Nov., 1943, Designated CT. Pennant Nos. were changed from M 3, M 1, and M2, respectively.

FRIGATES (Destroyer Escorts)

8 Ex-U.S. DE Type. "Babitonga" Class

BABITONGA (ex-*Alger*) **BENÁVENTE** (ex-*Christopher*)
BAEPENDI (ex-*Cannon*) **BERTIOGA** (ex-*Pennewill*)
BAURÚ (ex-*Reybold*) **BOCAINA** (ex-*Marts*)
BEBERIBE (ex-*Herzog*) **BRACUI** (ex-*McAnn*)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 37 × 10⅜ (*mean*) 12 (*max.*) feet
Guns:	3—3 inch (dual purpose), 2—40 mm., 8—20 mm.
Tubes:	3—21 inch
A/S weapons:	D.C.T.
Machinery:	Diesel-electric tandem-motor drive. 4 General Electric diesels and 2 electric motors. 2 shafts. S.H.P.: 6,000=21 kts. (19 kts. in service)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	218

Name	*Laid down*	*Launched*	*Completed*
Babitonga	2 Jan. 1943	1943	12 Nov. 1943
Baependi	14 Nov. 1942	25 May 1943	26 Sep. 1943
Bauru	17 May 1943	22 Aug. 1943	11 Oct. 1943
Beberibe	17 May 1943	5 Sep. 1943	6 Oct. 1943
Benávente	7 Dec. 1942	June 1943	23 Oct. 1943
Bertioga	26 Apr. 1943	8 May 1943	15 Sep. 1943
Bocaina	26 Apr. 1943	8 Aug. 1943	3 Sep. 1943
Bracui	3 May 1943	5 Sep. 1943	24 Sep. 1943



BABITONGA — 1960, *Brazilian Navy, Official*

Notes
Ex-American Destroyer Escorts of the "Bostwick" class, formerly *DE* 101, *DE* 99, *DE* 177, *DE* 178, *DE* 100, *DE* 175, *DE* 174 and *DE* 179, respectively. Built by Dravo, Welmington, Del. (*Babitonga* and *Baependi*) and Federal, Port Newark (other six). Transferred from the U.S. Navy in 1944. Designated CTe. Pennant Nos. were changed from BE 7, 5, 4, 2, 6, 1, 8, 3, respectively, to D16, D17, D18, D19, D20, D21, D22, and D23.

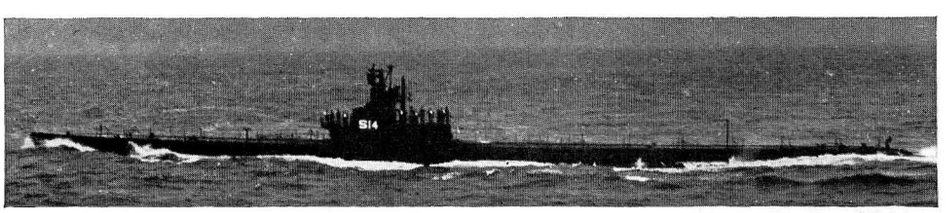
SUBMARINES (*Submarinos*)

2 Ex-U.S. "Gato" Class

HUMAITA (ex-U.S.S. *Muskallunge*)
RIACHUELO (ex-U.S.S. *Paddle*)

Name:	*Humaita*	*Riachuelo*
Pennant Nos:	S 14	S 15
Builders:	Electric Boat Co.	Electric Boat Co.
Laid down:	7 Apr. 1942	1 May 1942
Launched:	13 Dec. 1942	30 Dec. 1942
Completed:	15 Mar. 1943	29 Mar. 1943

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., 2—40 mm. AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	General Motors 2-stroke diesels. B.H.P.: 6,500=21 kts. (*surface*); Allis Chalmers electric motors: H.P.: 2,750=10 kts. (*submerged*)
Complement:	85

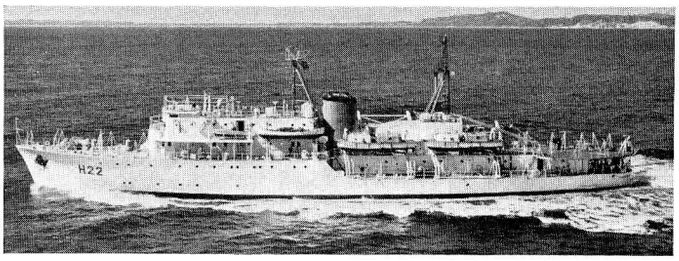


HUMAITA — 1960, *Brazilian Navy, Official*

General Notes
Former United States submarines of the "Gato" Class loaned to Brazil for five years under the Mutual Defense Assistance Program, after completion of overhaul at the Philadelphia Naval Shipyard in Jan. 1957. Have two engine rooms to reduce size of compartments.

Recent Disposals
The three ex-Italian submarines of the "Tupi" class, *Tamoia*, *Timbira* and *Tupi*, were officially removed from the list in 1960.

SURVEYING VESSELS (*Navios Hidrográficos*)



CANOPUS — 1958, *Ishikawajima Heavy Industries Co. Ltd.*

2 Frigate Type

CANOPUS **SIRIUS**

Displacement:	1,463 tons *standard*
Measurement:	1,600 tons *gross*
Dimensions:	236½ (*pp.*), 246 (*w.l.*), 255⅜ (*o.a.*) × 39½ × 12¼ feet
Guns:	1—3 inch AA., 4—20 mm. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,700=15 kts.
Complement:	102

Notes

Built by Ishikawajima Heavy Industries Co. Ltd., Tokio, Japan. Fitted with a helicopter platform aft. Special surveying apparatus, echo sounders, Raydist equipment, sounding machines are installed, and a helicopter, landing craft (LCVP), jeep, and surveying launches are carried. The propellers are of the controllable pitch type. All living and working spaces are air-conditioned.

Pennant No.:	*Name*	*Laid down*	*Launched*	*Completed*
H 22	*Canopus*	13 Dec. 1956	20 Nov. 1957	15 Mar. 1958
H 21	*Sirius*	13 Dec. 1956	30 July 1957	27 Dec. 1957

3 New Construction (Coastal Type)

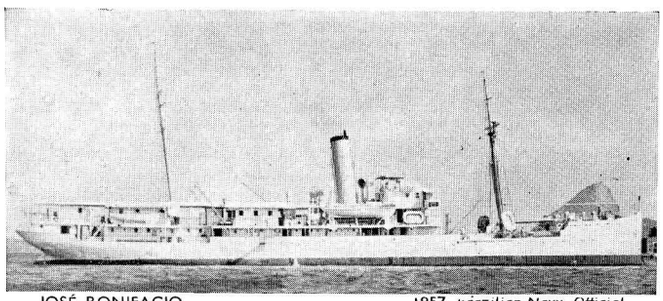
ARGUS **ORION** **TAURUS**

Displacement:	250 tons *standard* (300 tons *full load*)
Dimensions:	138 (*pp.*), 147⅔ (*o.a.*) × 20 feet
Machinery:	2 diesels coupled to two propeller shafts. B.H.P.: 1,200=15 kts.
Oil fuel:	35 tons

Notes

All built by Arsenal da Marinha in Rio de Janeiro and incorporated into the Navy on the effective list on the dates shown as completed in the table below.

Name	*Laid down*	*Launched*	*Completed*
Argus	12 Dec. 1955	6 Dec. 1957	29 Jan. 1959
Orion	12 Dec. 1955	5 Feb. 1958	11 June 1959
Taurus	12 Dec. 1955	7 Jan. 1958	23 Apr. 1959



JOSÉ BONIFACIO — 1957, *Brazilian Navy, Official*

JOSÉ BONIFACIO (ex-*Itapema*)

Displacement:	1,300 tons
Dimensions:	270 × 42 × 14 feet
Guns:	2—4 inch, 2—6pdr.
Machinery:	Triple expansion. I.H.P.: 540=9 kts.
Complement:	152

Notes

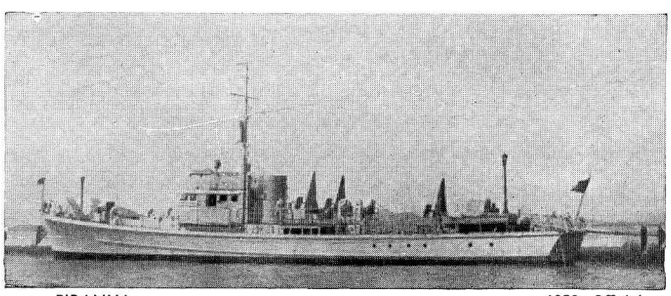
Built by Ailsa S.B. Co., Troon. Launched in 1909. Transport employed as survey ship. Pennant No. V 2.

Recent Disposals

The old surveying vessel *Rio Branco* (ex-*Ruth*, ex-*Margaret*), launched in 1914, was officially removed from the list in 1958.

The destroyer depot and repair ship *Belmonte*, rated as *torpedeiros depot* and *navio tender*, was officially removed from the list in 1960.

SEAWARD DEFENCE BOATS



PIRANHA — 1950, *Official*

5 "P" Class. Rated as *Caça-submarinos*

PIRAJU (P1) **PIRANHA** (P3) **PIRAQUE** (P4)
PIRAMBU (P2) **PIRAPIA** (P5)

Displacement:	130 tons *standard*
Dimensions:	128 × 19½ × 6 feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
A/S weapons:	30 D.C.
Machinery:	Diesels. 3 shafts. B.H.P.: 1,890=20 kts.
Complement:	30

General Notes

Motor launches. All launched in 1947-48. Built at Rio de Janeiro. The hulls are of wooden construction.

Recent Disposal

Sister boat *Pirauna*, P 6, was officially removed from the list in 1960.

CORVETTES (*Corvetas*)



YPIRANGA — *Added* 1958, *Official*

10 "Angostura" Class

ANGOSTURA **FORTE DE COIMBRA** **MEARIM**
BAHIANA **IGUATEMY** **PURUS**
CABOCLO **IMPERIAL MARINHEIRO** **SOLIMOES**
YPIRANGA

Displacement:	911 tons *standard*
Dimensions:	184 × 30½ × 11⅔ feet
Guns:	1—4 inch, 4—40 mm. AA.
Machinery:	2 Sulzer diesel engines. B.H.P.: 2,160=16 kts.
Oil fuel:	135 tons

General Notes

All built in the Netherlands, launched in 1954-55, and incorporated into the Brazilian Navy in 1955.

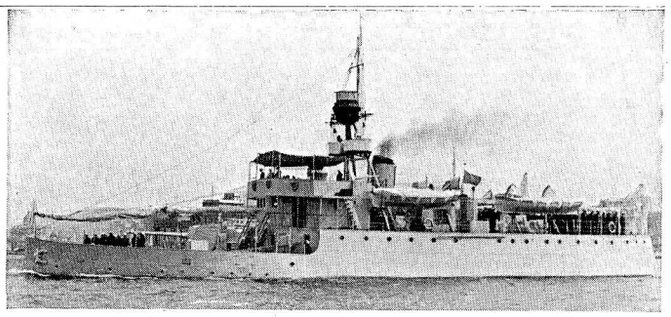
Photograph Notes

Photograph of *Imperial Marinheiro* in the 1956-57 and 1957-58 editions.

Recent Disposals

The three ex-British trawlers rated as *corvetas* and *navios-faroleiros* of the "*Felipe Camarao*" class, *Felipe Camarao*, *Henrique Dias* and *Vidal Negreiros*; the five minelayers rated as *corvetas* and *mineiros* of the "*Carioca*" class, *Cabedelo*, *Camocim*, *Camanea*, *Caravelas* and *Carioca*; and the four ex-American patrol vessels rated as *caca-submarinos*, *Graju*, *Grauna*, *Guajara* and *Gurupi*, were all officially removed from the list in 1960.

RIVER MONITORS (*Monitores*)



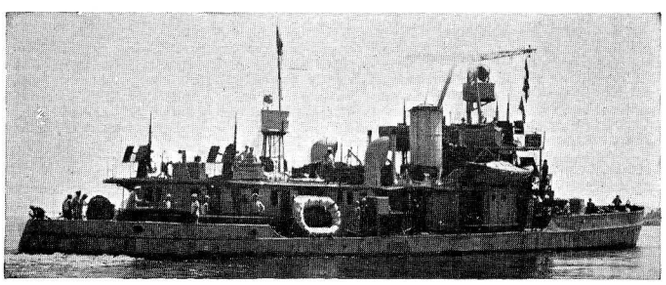
PARAGUAÇÚ — 1940, *Official*

PARAGUAÇÚ (ex-*Victoria*, ex-*Espirito Santo*)

Displacement:	430 tons *standard*
Dimensions:	146½ × 34¾ × 5 feet
Guns:	1—3 inch, 50 cal.; 2—47 mm., 2—40 mm. AA. (single), 6—20 mm. AA.
Machinery:	2 sets triple expansion, by J. S. White & Co. Ltd., Cowes I.H.P.: 1,100=13 kts.
Boilers:	2, of 3-drum type
Oil fuel:	40 tons
Complement:	71

Notes

Built at Rio de Janeiro. Launched on 22 Dec. 1938. In Matto Grosso Flotilla. Pennant No. P 3. Re-armed in 1960 (see guns above). For former armament see 1959-60 edition.



PARNAIBA — *Added* 1950

PARNAIBA

Displacement:	620 tons *standard*
Dimensions:	180½ (*o.a.*), 178¼ (*pp.*) × 33½ × 5 feet (*max.* draught)
Guns:	1—3 inch, 50 cal.; 2—47 mm., 2—40 mm. AA. (single), 6—20 mm. AA.
Armour:	3" side and partirl deck protection
Machinery:	2 sets vertical triple expansion by John I. Thornycroft & Co. Ltd., Southampton. 2 shafts. I.H.P.: 1,300=12 kts.
Boilers:	2, of 3-drum type, working pressure 250 lb.
Oil fuel:	70 tons
Complement:	90

Notes

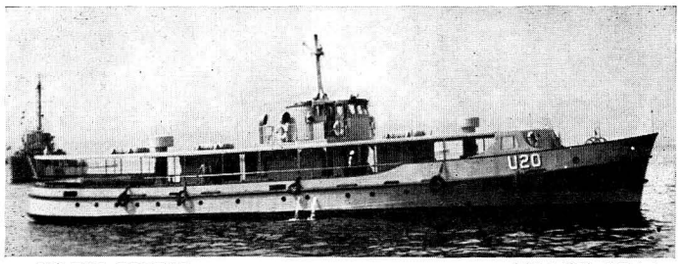
Built at Rio de Janeiro. Laid down on 11 June 1936, Launched in Sep. 1937, and completed in Nov. 1937. In Matto Grosso Flotilla. Pennant Bo. P 2. Re-armed in 1960 (see guns above). For former armament see 1959-60 edition.

LANDING CRAFT

Notes

Ishikawajima Heavy Industries Co., Tokio, have built 28 LCVP for the Brazilian Navy.

RIVER GUNBOATS (*Avisos*)



RIO DAS CONTAS — *Added 1958, Official*

5 "Rio" Class

RIO DAS CONTAS **RIO FORMOSO** **RIO VERDE**
RIO DOCE **RIO REALE**

Displacement:	150 tons *standard*
Dimensions:	121½ × 21½ × 9⅔ feet
Machinery:	Diesel. B.H.P.: 450=15 kts.

Notes
Built in the Nederlands in 1955-56. Officially classified as *avisos*.

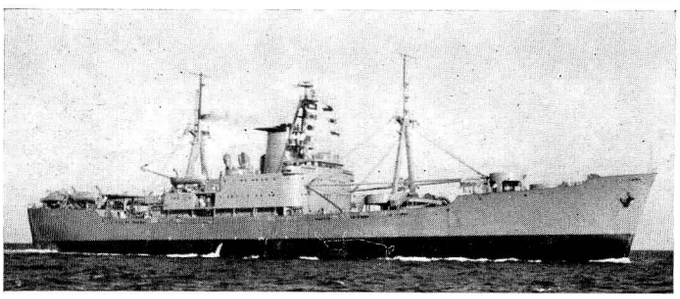
OIAPOQUE (ex-*Amapa*, ex*Cidade de Belem*)

Displacement:	195 tons *standard*
Dimensions:	130 (*pp.*), 137 (*o.a.*) × 18 × 6 feet
Guns:	2—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 450=14 kts.
Boiler:	1 Babcock watertube
Coal:	51 tons
Complement:	51

General Notes
Built by John I. Thornycroft & Co. Ltd., Southampton. Launched in 1907. In Matto Grosso Flotilla. Re-armed in 1960.

Photograph Notes
A photograph of *Oiapoque* appears in the 1953-54 to 1959-60 editions.

TRANSPORTS (*Navios-Auxiliares*)



SOARES DUTRA — 1958, *Ishikawajima Heavy Industries Co. Ltd.*

4 "Pereira" Class

ARY PARREIRAS **CUSTÓDIO DE MELLO**
BARROSO PEREIRA **SOARES DUTRA**

Displacement:	4,800 tons *standard* (7,300 tons *full load*)
Measurement:	4,200 tons *deadweight*, 4,879 tons *gross* (Panama)
Dimensions:	362 (*pp.*), 391¾ (*o.a.*) × 52½ × 20½ feet (*max.*)
Guns:	8—40 mm. AA.
Machinery:	2 sets Ishikawajima all impulse 2 cylinder cross compound double reduction geared turbines. 2 shafts. S.H.P.: 4,800=17·67 kts. (sea speed 15 kts.)
Boilers:	2 Ishikawajima two drum water tube type, oil fuel
Complement:	127 (Troop capacity 1,972)

General Notes
All built in Japan by Ishikawajima Heavy Industries Co., Ltd., Tokio. Transports and cargo vessels. Flush deckers with forecastle and long poop. Elevator type helicopter landing platform laid on aft. Normal troop carrying capacity for 497 personnel, with commensurate medical, hospital and dental facilities. All working and living quarters are mechanically ventilated with partial air conditioning. Refrigerated cargo space of 15,500 cubic feet. Can carry 4,000 tons of cargo. *Barroso Periera* and *Custódio de Mello* were incorporated into the Brazilian Navy on 22 Mar. 1955 and 8 Feb. 1955 respectively.

Photograph Notes
Photograph of *Custódio de Mello* in the 1956-57 and 1957-58 editions.

Name	*Laid down*	*Launched*	*Completed*
Ary Parreiras	13 Dec. 1955	24 Aug. 1956	29 Dec. 1956
Barroso Pereira	13 Dec. 1953	10 Aug. 1954	1 Dec. 1954
Custódio de Mello	13 Dec. 1953	10 June 1954	30 Sep. 1954
Soares Dutra	13 Dec. 1955	13 Dec. 1956	23 Mar. 1957

Recent Disposals
The old transport *Almirante Frontin* (ex-*Itassuce*) was officially removed from the list in 1958.
The ex-American dual purpose transport and training ship *Duque de Caxias*, U 11 (ex-*Orizaba*, AP 24) was officially removed from the list in 1960.

TRAINING SHIPS (*Navios-Escolas*)

ALBATROS (ex-*Wishbone*)

Displacement:	100 tons
Dimensions:	82⅔ × 17⅔ ×—feet
Machinery:	Diesel engine for auxiliary propulsion. B.H.P.: 85=5 kts.
Sail area:	3,000 square feet

Notes
British auxiliary two-masted schooner yacht sold to the Brazilian Navy as a training ship. Employed as Naval College Training Yacht. Ballast (lead keel): 28 tons.

Recent Disposal
The ex-German sail training ship (*navios-escolas*) *Guanabara* (ex-*Albert Leo Schlageter*) was officially removed from the list in 1960.

Training Ships—*continued*

ALMIRANTE SALDANHA

Displacement:	3,325 tons *standard* (3,825 tons *full load*)
Dimensions	262 (*pp.*), 307½ (*o.a.*) × 52 × 18½ feet (*mean draught*)
Guns:	4—4 inch, 1—3 inch AA., 4—3 pdr., 1—13 mm. AA., 2 M.G.
Tubes:	1—21 inch
Total sail area:	25,990 sq. ft.
Machinery:	Auxiliary diesel engine. B.H.P.: 1,400=11 kts. (12 kts. reached on trials)
Radius of action:	12,000 miles
Complement:	356+100 midshipmen and cadets

Notes
Built by Vickers Armstrongs, Ltd., Barrow. Launched on 19 Dec. 1933. Cost £314,500. Instructional minelaying gear is included in equipment. Pennant No. NE 1.
Photograph Notes
A photograph of *Almirante Saldanha* appears in the 1952-53 to 1959-60 editions.

OILERS (*Navios-Tanques*)

2 New Construction

MATARIPE (BO 1) **PAULO AFONSO** (BA 1)

Notes
Mataripe is an oiler and *Paulo Afonso* is a water tanker. Near sisters. Launched in 1957.

2 "R" Class

RIJO (ex-*Gualula*, ex-*AOG* 28) **RAZA** (ex-*Klaskanine*, ex-*AOG* 63)

Displacement:	2,228 tons *full load*
Dimensions:	217½ × 37 × 7 feet
Machinery:	Diesel engines. B.H.P.: 850=9 kts.
Capacity:	1,500 tons
Complement:	41

General Notes
Former American petrol carriers (gasoline tankers), Both built at East Coast Shipyards, Bayonne, N.J., U.S.A. U.S.M.C. type TI-M-A2.
Photograph Notes
A photograph of *Rijo* appears in the 1950-51 to 1959-60 editions.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
R 1	*Rija*	24 Apr. 1944	3 June 1944	19 Aug. 1944
R 2	*Raza*	21 Dec. 1944	3 Feb. 1945	26 Feb. 1945

COMANDANTE GARCIA D'AVILA (ex-*YO* 71)

Displacement:	1,400 tons
Dimensions:	176½ × 32 × 15 feet
Machinery:	One Fairbanks Morse diesel engine, 5 cylinders, 2 cycle. B.H.P.: 500=10 kts.

Notes
Former American yard oiler. Built in 1943. Purchased from the U.S. Navy in 1947.

POTENGI

Displacement:	600 tons
Dimensions:	175½ (*pp.*), 178¾ (*o.a.*) × 24½ × 6 feet
Machinery:	Diesel engines, 2 shafts. B.H.P.: 550=10 kts.
Oil:	450 tons
Complement:	19

Notes
Built at the Papendrecht yard in the Nederlands. Launched on 16 Mar. 1938. Employed in the Matto Grosso Flotilla on river service.
Recent Disposals
The ex-American oiler *Ilha Grande* (ex-*Silver Star Park*, ex-*Santa Cecilia*) was officially removed from the list in 1960.

TUGS (*Rebocadores*)

3 Ex-U.S. ATA Type

TRIDENTE (ex-*ATA* 235) **TRITÃO** (ex-*ATA* 234) **TRIUNFO** (ex-*ATA* 236)

Displacement:	534 tons (835 tons *full load*)
Dimensions:	133⅔ (*w.l.*), 143 (*o.a.*) × 33⅓ × 13½ feet
Machinery:	G.M. diesel-electric. H.P.: 1,500=13 kts.

General Notes
All built by Gulfport Boiler & Welding Works, Inc., Port Arthur, Texas, and launched in 1954. Ex-U.S. *ATRs*. Pennant Nos. *Tridente*, R 2, *Tritão*, R 1, *Trifuno*, R 3.
Photograph Notes
Photograph of *Tridente* in the 1950-51 to 1957-58 editions.

6 Holland-Nautic Type

AUDAZ **GUARANI** **PASSO DA PATRIA**
CENTAURO **LAMEGO** **VOLUNTARIO**

Measurement:	130 tons *gross*
Dimensions:	82 (*pp.*) 90½ (*o.a.*) × 23½ × 7½ (*fore*), 1⅙ (*aft*) feet
Machinery:	Wumag-diesel motor. B.H.P.: 750=11 kts.

Notes
All built at Holland-Nautic Yard, Haarlem, Netherlands in 1953. Small but powerful tugs of a new type for the Brazilian Navy.

ANIBAL MENDONÇA (ex-*Times*, ex-*St. Keyne*)

Displacement:	570 tons
Dimensions:	135 × 30 × 14½ feet
Guns:	2—3 pdr.
Machinery:	I.H.P.: 1,200=12 kts. (present best speed 10 kts.
Coal:	240 tons
Complement:	45

Notes
Launched in 1919. Former British tug of the "Saint" class transferred to the Brazilian Navy.

LAURINDO PITTA **LOMBA**

Displacement:	514 tons
Dimensions:	130 × 26 × 15 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850=11 kts.

Notes
Laurindo Pitta was built in Great Britain by Vickers. Launched in 1910.

ANTONIO JOÃO

Displacement:	80 tons
Dimensions:	75½ × 17½ × 6⅔
Machinery:	Fairbanks Morse diesel engine, 6 cylinder, 2 cycle. B.H.P.: 180

Notes
Formerly classed as *aviso*. General utility craft for river service.

ALMIRANTE JULIO DE NORONHA **ALMIRANTE WADENKOLK**

Displacement:	75 tons	Displacement:	350 tons
		Machinery:	S.H.P.: 600

Recent Disposals
The tug *Mario Alves* was officially removed from the list in 1960.

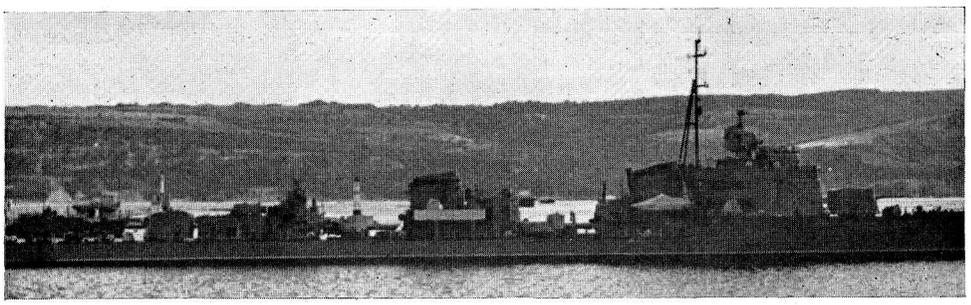
BULGARIA

DESTROYERS

1 Ex-U.S.S.R. "Otlichnyi" Type

GEORGI DIMITROV (ex-Russian)

Displacement:	1,800 tons *standard* (2,650 tons *full load*)
Dimensions:	387⅛ (*o.a.*) × 36¾ × 12½ feet
Guns:	4—5·1 inch, 55 cal. (twin mounts), 2—3 inch AA., 6—37 mm. AA.
Tubes:	8—21 inch
A/S Weapons:	4 D.C.T.
Mines:	68 to 80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=38 kts.
Boilers:	3
Oil fuel:	500 tons
Complement:	250



GEORGI DIMITROV — 1960, *Mr. P. H. Silverstone*

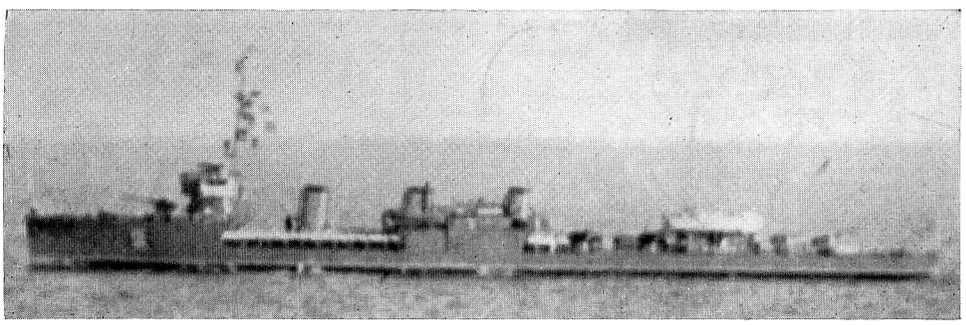
Notes

Former Russian destroyer of the "Otlichnyi" class. Built by Marti Nikolaiev. Launched in 1943. Bulgaria is reported to have received at least one other destroyer from the U.S.S.R.

1 Ex-.US.S.R. "Novik" Type

Ex-ZHELYEZNYAKOV (ex-*Petrovski*, ex-*Korfu*)

Displacement:	1,350 tons *standard* (1,600 tons *full load*)
Dimensions:	303½ × 29½ × 9 feet
Guns:	3—3·9 inch, 2—37 mm. AA.
Machinery:	Turbine. S.H.P.: 29,000=26 kts.
Boilers:	5
Oil fuel:	390 tons
Radius:	1,800 miles at 22 kts.
Complement:	200



Ex-ZHELYEZNYAKOV — *Official*

Notes

Ex-Russian *Zhelyeznyakov* of the old (1912) "Novik" type of destroyers. Built at Nikolaiev. Launched in 1917. Completed in 1925. Transferred to Bulgaria in 1950.

FRIGATES

4 "Riga" Class

Displacement:	950 tons *standard* (1,200 tons *full load*)
Dimensions:	278¾ × 29½ × 10 feet
Guns:	3—3·9 inch AA., 4—37 mm. AA.
Tubes:	3—21 inch
A/S weapons:	4 D.C.T.
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000=27 kts.

Notes

Reported to have been transferred from the Russian Navy.

SUBMARINES

3 Coastal Type

M 1 **M 2** **M 3**

Displacement:	205 tons *surface* (256 tons *submerged*)
Dimensions:	147 × 10¾ × 8¾ feet
Guns:	1—37 mm.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 800=13 kts. *surface*. Electric motors. H.P.: 400 =8 kts. *submerged*
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts.

Notes

Bulgaria is reported to have acquired three Soviet M II type submarines.

MINESWEEPERS

4 M 35 Type

Displacement:	717 tons *standard* (874 tons *full load*)
Dimensions:	223 × 27½ × 8½ feet
Guns:	2—4·1 inch, 2—37 mm. AA., 8—20 mm. AA.
Machinery:	2 Lenz triple expansion. 2 shafts. I.H.P.: 3,200=18 kts.
Boilers:	2 high pressure Wagner
Oil fuel:	143 tons
Radius:	5,000 miles at 10 kts.
Complement:	100

Notes

Former German fleet minesweepers of the M boat 35 type. Built in 1940.

PATROL VESSELS

2 SC Type

BELOMORETZ (ex-French *C 27*)
CHERNOMORETZ (ex-*C 80*)

Displacement :	77 tons
Guns:	1—47 mm., 2 M.G.
Machinery:	3 sets of 220 B.H.P. standard petrol motors, totalling 660 B.H.P.=17 kts.
Fuel:	9 tons
Radius:	700 miles at 10 kts.
Complement:	26

Notes

Former submarine chasers built in the United States in 1917-18. Both purchased from France in 1922.

There are also *Rila* and another vessel. Both launched 1941. Displacement 200 tons.

3 MS Type

DERZKI **KHRABRI** **STROGI**

Displacement:	100 tons
Dimensions:	126½ × 13¼ × 8¾ feet
Guns:	2—47 mm., 1 M.G.
Machinery:	1 shaft. Designed H.P.: 2,000= 26 kts. (actual *max.* 18 kts.)
Boilers:	Du Temple
Coal:	27 tons
Complement:	23

Notes

Creusot boats. Built in sections by Schneider, Châlon-sur-Saône, in France, reassembled at Varna, 1907-08. Originally torpedo boats with 2—18-inch tubes. Reported to be refitted for minesweeping.

It is reported that Bulgaria has also acquired a number of ex-German M-boats.

MOTOR TORPEDO BOATS

15 PA 2 Type

Displacement:	40 tons
Guns:	4—25 mm. AA.
Machinery:	Speed=40 kts.

Notes

Former Russian fast patrol boats of the PA2 type. Built in 1950.

No. 3 (ex-*S 201*) **No. 4** (ex-*S 202*)

Displacement:	35 tons
Dimensions:	70 × 20 × 4 feet
Guns:	1—20 mm.
Tubes:	2—21 inch
Machinery:	3 sets Rolls Royce petrol motors. B.H.P.: 3,000=45 kts.
Complement:	9

Notes

Former German Schnellboote. Built by Werft Gusto, Schiedam, Holland (1940). British Power Boat Company type.

No. 2

Displacement:	60 tons
Dimensions:	92 × 14¾ × 5½ feet
Guns:	1—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz motors. B.H.P.: 3,150=34 kts.
Complement:	18

Notes

Former German Schnellboote. Built by Lurssen, Vegesack. Launched 1939. No. 1 was a war loss while in German hands.

TRAINING VESSELS

ASSEN

Displacement:	240 tons
Guns:	2—65 mm., 1 M.G.
Machinery:	H.P.: 120=7 kts.

Notes

Auxiliary sail training vessel. Launched 1912. Refitted 1933-34.

There is also the *Kamcia*, launched 1898. Refitted 1925. Speed, 10 kts.

BURMA

Administration

Vice-Chief of Staff, Defence Services (Navy): Commodore Than Pe.

Naval Attaché in London: Colonel Thein Maung.

Personnel

1960: 3,000 officers and ratings, including reserves

FRIGATE

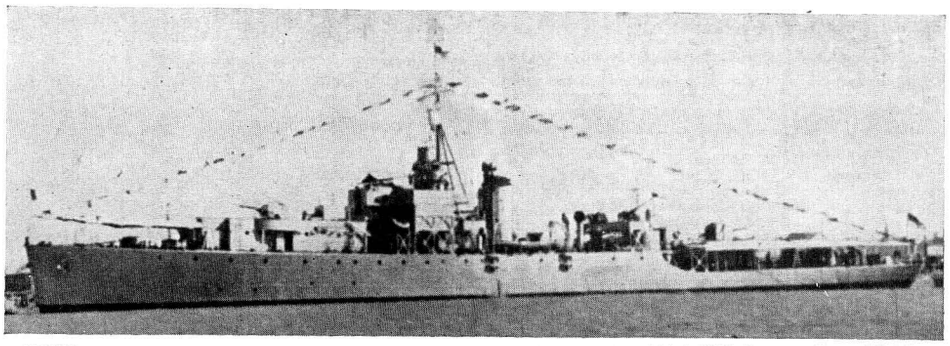
1 Ex-British "River" Class

MAYU (ex-H.M.S. *Fal*)

Builders:	Smith's Dock Co. Ltd., South Bank-on-Tees
Laid down:	20 May 1942
Launched:	9 Nov. 1942
Completed:	2 July 1943
Displacement:	1,460 tons *standard*, 2,170 tons *full load*
Dimensions:	283 (*pp.*), 301⅓ (*o.a.*) × 36⅔ × 12 feet
Guns:	2—4 inch D.P., 4—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 19 kts.
Boilers:	2, of 3-drum type
Fuel:	440 tons
Complement:	140

Notes

"River" class frigate. Acquired from Great Britain in 1947.



MAYU — *Added 1954, Burmese Navy, Official*

ESCORT MINESWEEPER

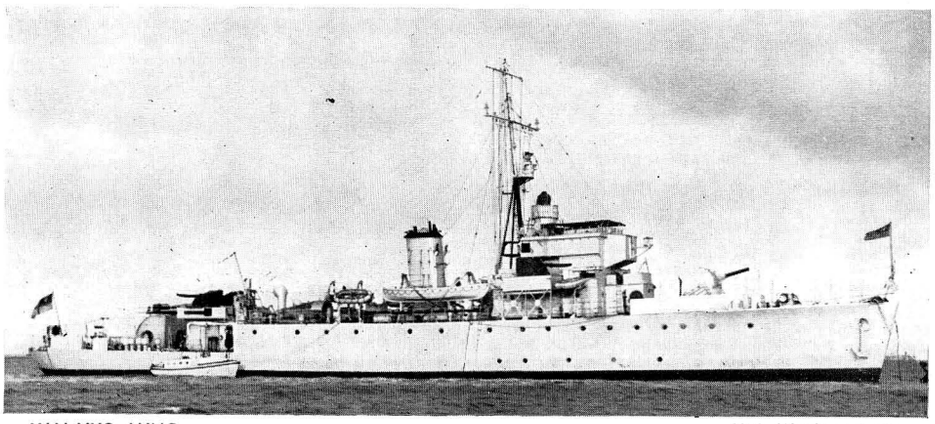
1 Ex-British "Algerine" Class

YAN MYO AUNG (ex-H.M.S. *Mariner, M 380*, ex-*Kincardine*)

Builders:	Port Arthur Shipyards, Canada
Laid down:	26 Aug. 1943
Launched:	9 May 1944
Completed:	23 May 1945
Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 (*pp.*), 235 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	1—4 inch 4—40 mm. AA.
Machinery:	Triple Expansion. 2 shafts. S.H.P.: 2,000 = 16·5 kts.
Boilers:	2, of 3-drum type
Radius:	4,000 miles
Complement:	140

Notes

Formerly of the fastest and most efficient class of ocean minesweepers in the British Navy, which were of the corvette type and were frequently used as escort vessels. *Mariner* was transferred from Great Britain in 1957 with Burma paying the cost of reactivation at H.M. Dockyard, Sheerness. The ship was actually handed over to Burma in the Pool of London and renamed *Yan Myo Aung*, on 18 Apr. 1958. She is fitted for minelaying and can carry 16 mines, eight on each side.



YAN MYO AUNG — 1958, *Wright & Logan*

MOTOR TORPEDO BOATS



T 201. — *courtesy Saunders-Roe (Anglesey) Limited*

5 British MTB/MGB Convertible Type

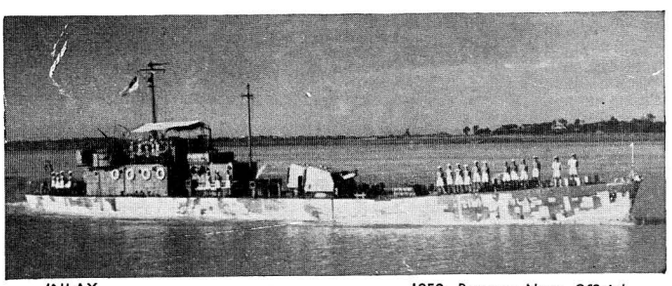
T 201 (ex-*PTS* 101) **T 202** ex-*PTS* 102) **T 203** (ex-*PTS* 103) **T 204** (ex-*PTS* 104) **T 205** (ex-*PTS* 105)

Displacement:	50 tons *standard* (64 tons *full load*)
Dimensions:	67 (*pp.*), 71½ (*o.a.*) × 19½ × 6 (*max.*) feet
Guns:	(as gunboat) 1—4·5 inch, 1—40 mm. AA.
Tubes:	(as torpedo boat) 4—21 inch with 2—20 mm. AA. (twin)
Machinery:	2 Napier Deltic diesels. S.H.P.: 5,000 = 42 kts.
Complement:	13

Notes

Saunders Roe (Anglesey) Ltd. received from the British Admiralty the order for these interchangeable motor torpedo boats/motor gunboats for delivery to the Burmese Government. These convertible craft are of aluminium construction, having a riveted skin and a riveted aluminium alloy framework. As well as main engines, auxiliary power is also provided by diesels. The Saunders-Roe slow-speed electric drive is fitted to facilitate manoeuvring in the confined inland waters where the craft may be required to operate. Armament and layout of the vessels are similar to the British Admiralty fast patrol boats of the "Dark" Class. The order, including engines, equipment and spares, amounted to over £1,800,000. *T 201* was launched on 24 Mar. 1956. All completed 1956-57.

GUNBOATS



INLAY — 1950, *Burmese Navy, Official*

4 Ex-British LCG (M) Type

INDAW **INLAY** **INMA** **INYA**

Displacement:	381 tons
Dimensions:	154½ (*o.a.*) × 22½ × 7¾ feet
Guns:	2—25 pdr., 2—20 mm. AA.
Machinery:	Paxman Ricardo. 12 T.P.M. Vee-type diesels. 2 shafts. B.H.P.: 1,000 = 13 kts.
Complement:	39

Notes

Former British *LCG(M)* type vessels—landing craft, gun, medium. Employed as gunboats.

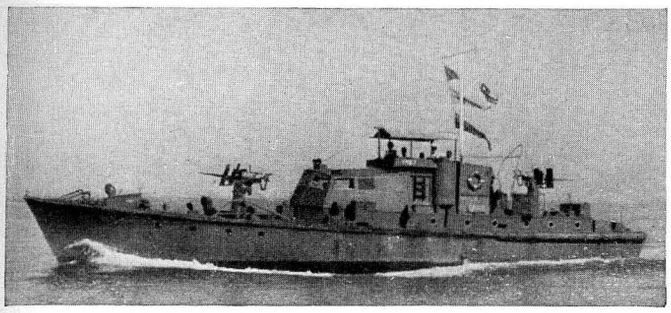
Boom Defence Vessel Notes

The former British "Bar" class boom defence vessel *Barstroke*, which had been on loan to the Rangoon Port Commission since 1946, was returned to the Royal Navy at Singapore at the end of 1959 and put up for sale.

Recent Disposals

The former British 105 ft. motor minesweeper *MMS 197* was decommissioned in 1957. Her sister ship *MMS 201* was stricken from the Navy List in 1956.

MOTOR GUNBOATS



MGB 1467 — *Added* 1950, *Burmese Navy, Official*

6 Ex-British HDML Type

MGB 1272 **MGB 1304** **MGB 1306** **MGB 1456** **MGB 1462** **MGB 1478**

Displacement:	46 tons (54 tons *full load*)
Dimensions:	72 (*o.a.*) × 15⅝ × 5½ feet
Guns:	2—20 mm. AA. except *MGB* 1456, 1—2 pdr., 1—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 320=10 kts.

Notes

Ex-British harbour defence motor launches of same numbers. MGB 1299, MGB 1369, MGB 1467, MGB 1477, and MGB 1486 were decommissioned in 1957.

10 Ex-United States CGC Type

MGB 111 **MGB 112** **MGB 113** **MGB 114** **MGB 115** **MGB 116** **MGB 117** **MGB 118** **MGB 119** **MGB 120**

Displacement:	102 tons
Dimensions:	95 × 18 × 5 feet
Guns:	2—40 mm. Bofors QF.
Machinery:	4 General Motors Diesels. 2 shafts. B.H.P.: 2,200=21 (*max.*) kts. (2 stroke, 6 cylinder. 2 engines on each shaft, tandem geared, 1 L.H. and 1 R.H. drive. 550 H.P. each)
Complement:	15

Notes

Two of these ten United States Coast Guard type Cutters were transferred to Burma under the Mutual Defense Assistance Program in 1959. These shallow draught patrol craft were acquired for use as small gunboats to assist the Burmese Government in patrolling the navigable river systems of Burma. It is reported that others will follow these two. Built or building in the U.S.A.

Recent Disposals

The nine 83 ft. ex-U.S.C.G. type cutters, MGB 101, 102, 104, 105, 106, 107, 108, 109 and 110 MGB 103 was lost due to foundering off the Fenessarin coast in heavy seas in 1956) are reported to be scrapped. It is reported that Burma will build hulls for nine new patrol craft to replace the nine that were scrapped.

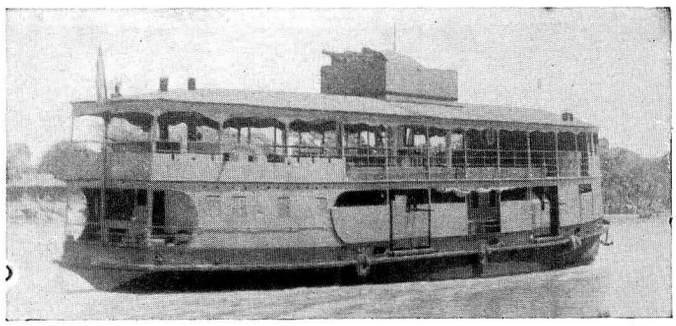
RIVER GUNBOATS

10 New Construction Patrol Type

Displacement:	100 tons
Dimensions:	104 (*o.a.*) × 24 × 2½ (*max.*) feet
Guns:	1—40 mm. AA.; 2—20 mm. AA.
Machinery:	2 Mercedes Benz diesels. B.H.P.: 1,000=14 kts.
Complement:	30

Notes

These ten new river gunboats for the Burmese Navy built at Pula, Yugoslavia, arrived in Burma in Jan.-Feb. 1960. They are of steel construction, having a riveted skin and framework.



SHWEPAZUN — 1952, *Burmese Navy, Official*

9 Converted Type

HINTHA **SABAN** **SAGU** **SEINDA** **SETKYA** **SETYAHAT** **SHWEPAZUN** **SHWETHIDA** **SINMIN**

Displacement:	98 tons
Dimensions:	94½ × 22 × 4½ feet
Guns:	6—20 mm. AA.
Machinery:	Crossley ERL.—6 diesel. B.H.P.: 160=12 kts.
Complement:	32

Notes

Nine river gunboats are river steamers leased from Inland Water Transportation Board and converted to gunboats.

Two river gunboats commenced in 1952 at Dawbon Government Dockyard, Rangoon, In March, 1956 hulls were transported to Dalla Dockyard for completion.

Six more river gunboats are planned for construction at Rangoon Naval Workshop.

TUG

TUSA 233

Notes

On loan to the Burmese Navy from Great Britain since 1950. At Rangoon.

CAMBODIA

Marine Royale Khmere

The Marine Royale Khmere was established on 20 April, 1954.

Administration

Chief of Naval Operations: Commander (Capitaine de Fregate) Pierre Coldes.

Personnel

1960: *Navy:* 1,200 officers and men.
Marine Corps: 152 officers and men.

PATROL VESSELS



E 312 — 1960, *United States Navy, Official*

E 311 (ex-*Flamberge*, *P* 631, ex-*PC* 1086) **E 312** (ex-*L'Inconstant*, *P* 636, ex-*PC* 1171)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 3,600=20 kts. (18 kts. sea speed)
Oil fuel:	62 tons
Radius:	6,000 miles at 10 kts.
Complement:	60

Notes

Former American submarine chasers of the PC type. Transferred from the United States Navy to the French Navy in 1951 and served in Indo-China. Transferred to the Marine Royale Khmere in 1955-56. Built of steel.

LANDING CRAFT

P 111 (ex-*LSIL* 9039, ex-*LSIL* 875)

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	169 × 23⅔ × 5⅔ feet
Guns:	1—3 inch, 1—40 mm. AA., 2—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,320=14 kts.
Complement:	58

Former American infantry landing ship of the LSIL type. Transferred from the United States Navy to the French Navy on 2 Mar. 1951 and stationed in Indo-China. Transferred to the Marine Royale Khmere in 1957.

There are also ex-LCU 9073 and ex-LCU 9089, 7 landing craft (LCM), 39 armoured craft (LCVP), 2 patrol boats (YP) and 6 auxiliaries (YAG).

ex-**LCT 9085** (ex-622) ex-**LCT 9091** (ex-720)

Displacement:	160 tons *standard* (320 tons *full load*)
Dimensions:	105 (*w.l.*), 119 (*o.a.*) × 32⅔ × 5 feet
Guns:	1—40 mm. AA., 4—20 mm. AA.
Machinery:	Gray diesels. 3 shafts. B.H.P.: 675=8 kts.
Complement:	13

Notes

Former American tank landing craft of the LCT (6) type. Transferred from the United States Navy to the French Navy for service in Indo-China. Transferred from the French Navy to the Marine Royale Khmere in 1956-57.

There are also ex-U.S.S. *YTL* 555 and ex-U.S.S. *YTL* 556, and ex-VP 748, 749 and 762 of the British HDML type, transferred in 1956 by the French.

CHILE

Administration

Minister of National Defence:
Senor Carlos Vial.

Commander-in-Chief of the Navy:
Vice Almirante Leopoldo Fontaine.

Chief of the Naval Staff:
Contra Almirante Roul Rudolphy.

Head of the Chilean Naval Mission in Great Britain and Naval Attache in London:
Capitan de Navio Arturo Oxley.

Personnel

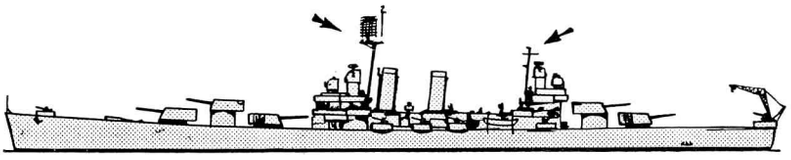
1960: 13,000 officers and men.

Mercantile Marine

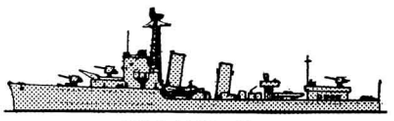
Lloyd's Register of Shipping
105 vessels of 231,727 tons *gross*

Silhouettes

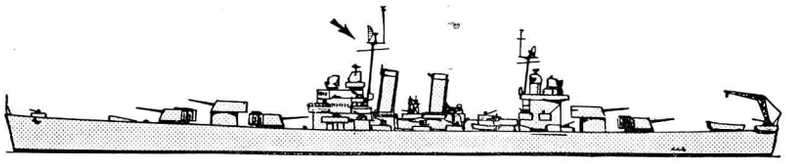
Scale: 150 feet = 1 inch



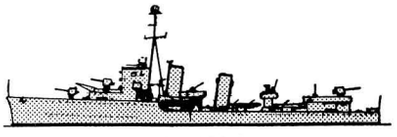
PRAT



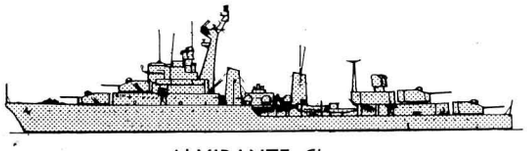
SERRANO *Class*



O'HIGGINS



ORELLA



ALMIRANTE *Class*



CASMA *Class*



BAQUEDANO *Class*

CRUISERS (*Cruceros*)

2 "Prat" Class

O'HIGGINS (ex-*Brooklyn*) **PRAT** (ex-*Nashville*)

	Name:	*O'Higgins*	*Prat*
	Builders:	New York Navy Yard	New York S.B. Co.
	Laid down:	12 Mar. 1935	24 Jan. 1935
	Launched:	30 Nov. 1936	2 Oct. 1937
	Completed:	18 July 1938	25 Nov. 1938
Displacement:		*Prat:* 10,000 tons *standard* (13,500 tons *full load*) *O'Higgins:* 9,700 tons *standard* (13,000 tons *full load*)	
Dimensions:		Length: 608½ (*o.a.*) feet. Beam: 69 feet. Draught: 24 feet (*max.*)	
Guns:		15—6 inch, 47 cal.; 8—5 inch, 25 cal; 28—40 mm. AA.; 24—20 mm. AA.	
Aircraft:		4 (normal capacity) see notes	
Armour:		4″-1½″ belt, 3″+2″ decks, 5″-3″ turrets, 8″ C.T.	
Machinery:		Westinghouse geared turbines. 4 shafts. S.H.P.: 100,000=32·5 kts.	
Boilers:		8 Babcock & Wilcox Express type	
Oil fuel:		2,100 tons	
Radius:		14,500 miles at 15 kts.	
Complement:		888 to 975 (peace)	

General Notes

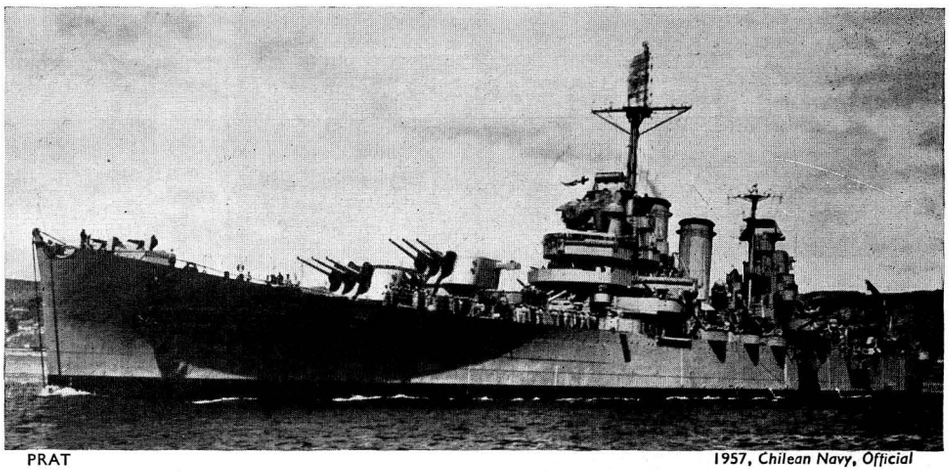
Formerly CL 40 and CL 43, respectively, of the U.S. "Brooklyn" Class. Purchased from the United States in 1951 at a cost representing 10 per cent of their original cost ($37,000,000) plus the expense of reconditioning them.

Hangar Notes

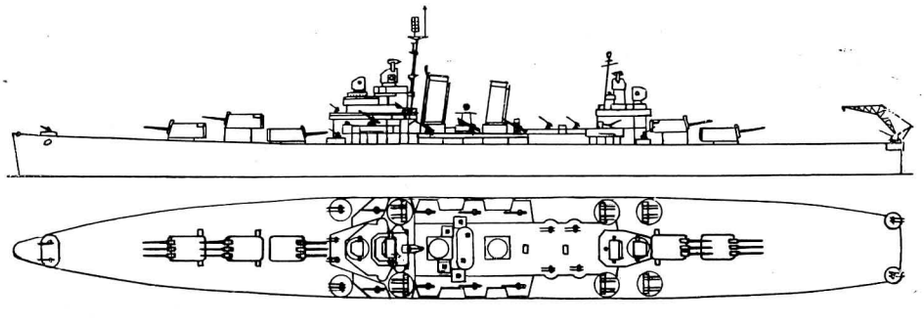
The hangar in the hull right aft could accommodate 6 aircraft if necessary together with engine spares and duplicate parts, though 4 aircraft is the normal capacity. The existence of this hangar resulted in a very wide and nearly flat counter and high freeboard aft and also gave the after guns higher command. Above the hangar two catapults were mounted as far outboard as possible, and a revolving crane was placed at the stern extremity overhanging the aircraft hatch.

Note to Drawing

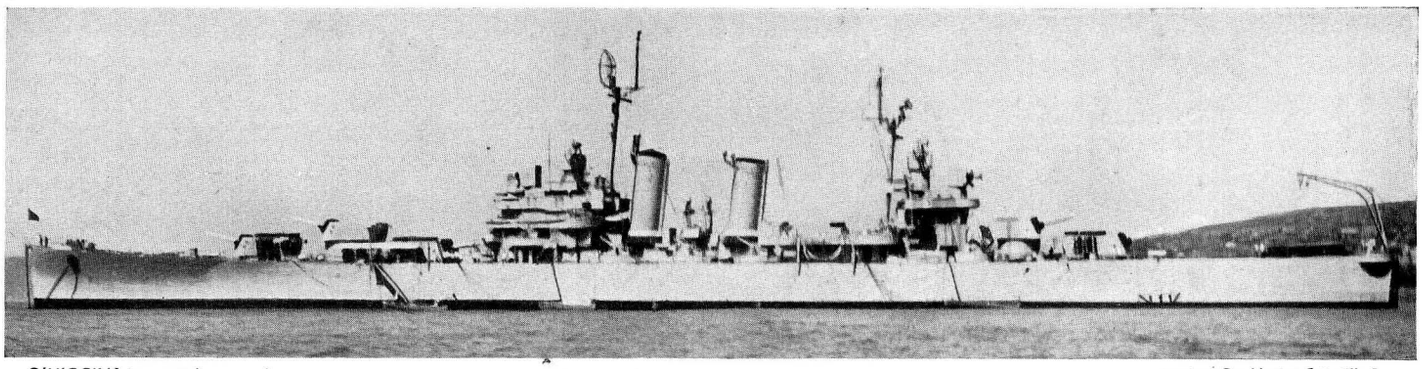
Port elevation and plan. Scale: 128 feet = 1 inch.



PRAT 1957, *Chilean Navy, Official*



Cruisers—*continued*



O'HIGGINS (see previous page) *courtesy Dr. Nestor Capetillo P.*

DESTROYERS (*Destructores*)



ALMIRANTE WILLIAMS 1960, *courtesy Vickers-Armstrongs Ltd., Barrow-in-Furness, Builders*

2 New Construction

ALMIRANTE RIVEROS (12 Dec. 1958)
ALMIRANTE WILLIAMS (5 May 1958)

Displacement:	2,730 tons *standard* (3,300 tons *full load*)
Dimensions:	402 (*o.a.*) × 43 × 13½ (*max.*) feet
Guns:	4—4 inch AA.; 6—40 mm. AA.
Tubes:	5—21 inch
A/S weapons:	2 squid three-barrelled mortars
Machinery:	Vickers-built Parsons geared turbines of Pametrada design. 2 shafts. S.H.P.: 54,000=34·5 kts.
Boilers:	2
Range:	6,000 miles
Complement:	266

General Notes

Chilean naval headquarters announced in Santiago in Jan. 1954, that two modern destroyers were to be purchased from Great Britain. Vickers-Armstrongs Ltd. received the order from the Chilean Government in May 1955. The layout and general arrangements are strictly conventional, with two funnels. Bunks are fitted for the entire crew. Launch dates above. Completed in 1960.

Gunnery Notes

The main armament is disposed in four single mountings, two superimposed forward and two aft. The 4-inch guns are entirely automatic with a range of 12,500 yards (or over 7 miles) and an elevation of 75 degrees.

Operational Notes

The Operations Room and other similar spaces are air-conditioned. There are twin rudders for exceptional manoeuvrability. The ventilation and heating systems have been designed to suit the Chilean coastline, extending from the tropics to Cape Horn. The latest type of warship radar is fitted, specially developed for these ships to work in conjunction with new fire control systems developed by Vickers-Armstrongs.

Electrical Notes

The electrical system is on alternating current. Galleys are all electric. There is widespread use of fluorescent lighting. Degaussing cables are fitted.

Fletcher Class Notes

It is officially stated by Chilean Naval Headquarters that the delivery of two "Fletcher" class destroyers by the U.S.A. is doubtful and they have therefore been deleted.

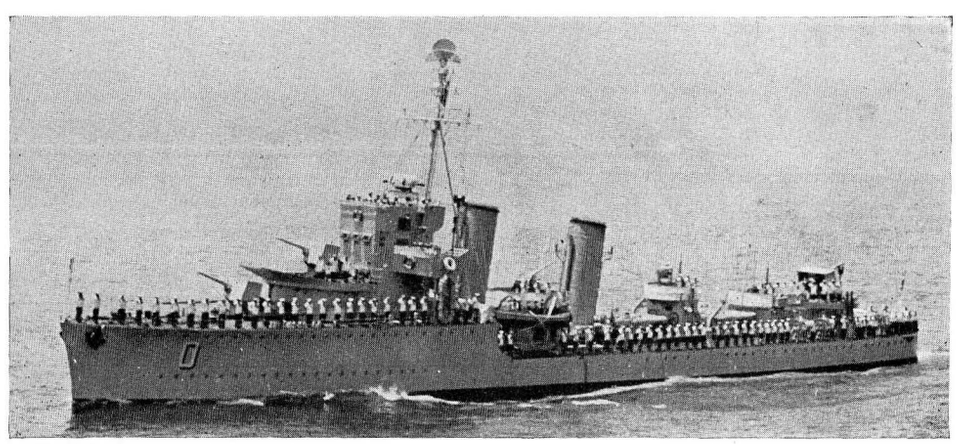
4 "Serrano" Class

HYATT **RIQUELME**
ORELLA **SERRANO**

Displacement:	1,090 tons *standard* (1,430 tons *full load*)
Dimensions:	288¼ (*pp.*), 300 (*o.a.*) × 29 × 12⅔ feet (*max.*)
Guns:	3—4·7 inch, 1—3 inch AA., 3—20 mm. AA., 2 M.G.
Tubes:	6—21 inch, in triple deck mountings
Machinery:	Geared turbines Parsons (l.p.), Brown-Curtis (h.p. and cruising). 2 shafts. S.H.P.: 28,000=35 kts.
Boilers:	3 Thornycroft 3-drum type
Oil fuel:	320 tons
Complement:	130

General Notes

Fitted for carrying mines. Plating is galvanised throughout, and the heavy hull scantlings reduce the stresses to even less than those allowed by British Admiralty practice. All exceeded their contract speed on trials. They have exceptionally good accommodation for vessels of their size, and are adapted for service in a wide range of climates. All distinguished by initial letter of name painted on bows.



ORELLO (after conversion to escort with tripod mast for radar) 1956, *Chilean Navy, Official*

Conversion Notes

Orella and *Serrano* were converted into escort destroyers in 1956. The modifications included the stepping of a tripod mast and the fitting of modern radar equipment and anti-submarine sonar apparatus, extra fuel tanks, etc. *Serrano* also converted into a DE like *Orella*, was refitted with a short lattice foremast to support new radar in 1955.

Destroyers—*continued*

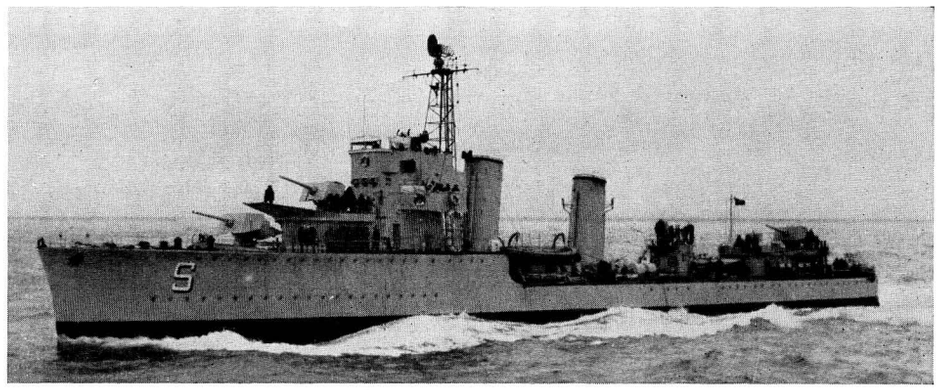
"Serrano" Class—*continued*

Bow Letter	*Name*	*Builders*
H	*Hyatt*	All by John I. Thornycroft & Co. Ltd., Southampton
O	*Orella*	
R	*Riquelme*	
S	*Serrano*	

Name	*Laid down*	*Launched*	*Completed*
Hyatt	June 1927	21 July 1928	June 1929
Orella	June 1927	8 Mar. 1928	June 1929
Riquelme	July 1927	28 May 1928	July 1929
Serrano	July 1927	25 Jan. 1928	Sep. 1928

Recent Disposals

Sister ships *Aldea* and *Videla* were officially removed from the list in 1958.



SERRANO — 1959, *Chilean Navy, Official*

FRIGATES (*Fragatas*)

3 "Baquedano" Class

BAQUEDANO (ex-*Esmeralda*, ex-*Glace Bay*, ex-*Lauzon*)
COVADONGA (ex-*Seacliff*, ex-*Megantio*)
IQUIQUE (ex-*Joliette*)

Displacement:	1,445 tons *standard* (2,125 tons *full load*)
Dimensions:	301 × 37 × 13 feet
Guns:	2—4 inch AA., 10—20 mm. AA.
A/S Weapons:	6 D.C.T.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Oil fuel:	646 tons
Radius:	9,500 miles at 12 kts.
Complement:	140

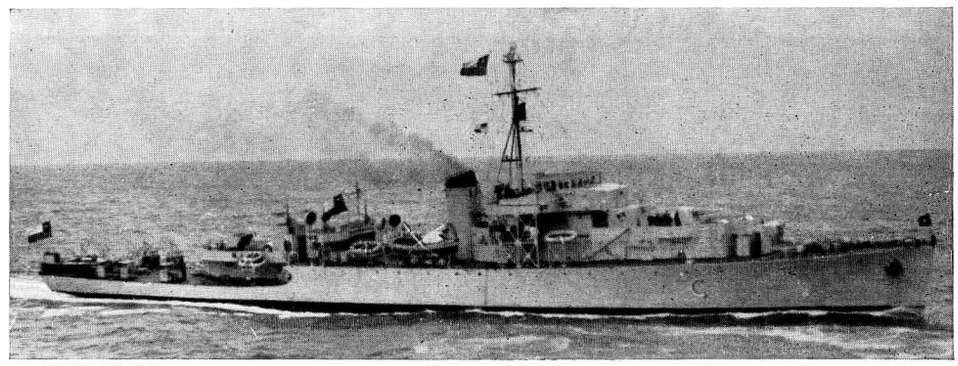
General Notes

Purchased from the Royal Canadian Navy in 1946. *Esmeralda* was renamed *Baquedano* in 1952. The ships are distinguished by the initial letters of their names:

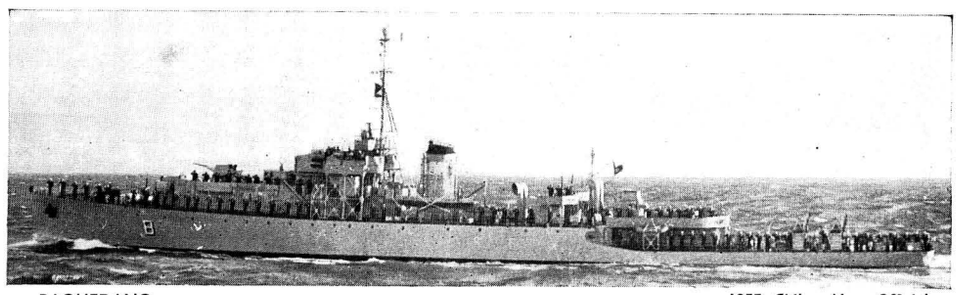
B—*Baquedano*; C—*Covadonga*; I—*Iquique*.

Name	*Builders*
Baquedano	Geo. T. Davie Ltd., Lauzon, P.Q.
Covadonga	Davie Shipbuilding Co., Lauzon, P.Q.
Iquique	Morton Ltd., Quebec City, P.Q.

Name	*Launched*	*Completed*
Baquedano	26 Apr. 1944	2 Sep. 1944
Covadonga	8 July 1944	26 Sep. 1944
Iquique	12 Nov. 1943	14 June 1944



COVADONGA — 1957, *courtesy Mr. Augustin Ross*



BAQUEDANO — 1955, *Chilean Navy, Official*

CORVETTES (*Corbetas*)

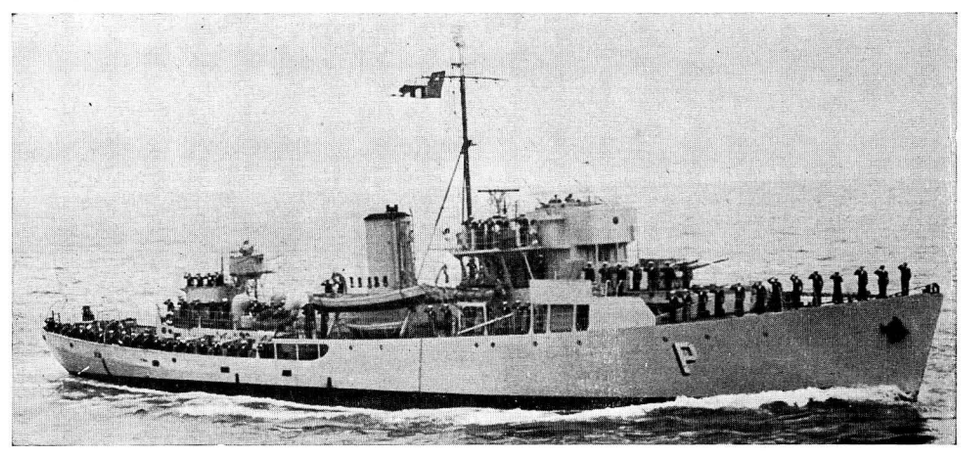
3 "Casma" Class

CASMA (ex-*Stellarton*, 27 Apr. 1944)
CHIPANA (ex-*Strathroy*, 15 June 1944)
PAPUDO (ex-*Thorlock*, 15 May 1944)

Displacement:	1,060 tons *standard* (1,340 tons *full load*)
Dimensions:	193 (*pp.*), 205 (*o.a.*) × 33½ × 14¾ feet (*max.*)
Guns:	1—4 inch, 6—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. I.H.P.: 2,750=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	350 tons
Radius:	7,000 miles at 10 kts.
Complement:	66

General Notes

Launch dates above. Completed on 29 Sep. 1944, 20 Nov., 1944, and 13 Nov. 1944, respectively. Built by Morton Ltd., Quebec City, P.Q. (*Casma*) and Midland Shipyards Ltd., Midland, Ont. (other two). Purchased from the Royal Canadian Navy in 1946. Rated as *Corbetas*. *Chipana* actually serves as a surveying vessel. Distinguished by initial letters of their names: C—*Casma*; CH—*Chipana*; P—*Papudo*.



PAPUDO — 1955, *Chilean Navy, Official*

SUBMARINES

1 "Balao" Class

Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet
Guns:	1—5 inch, 25 cal., d.p., 2—40 mm AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500 =20 kts. (*surface*). H.P.: 4,610= 10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	80

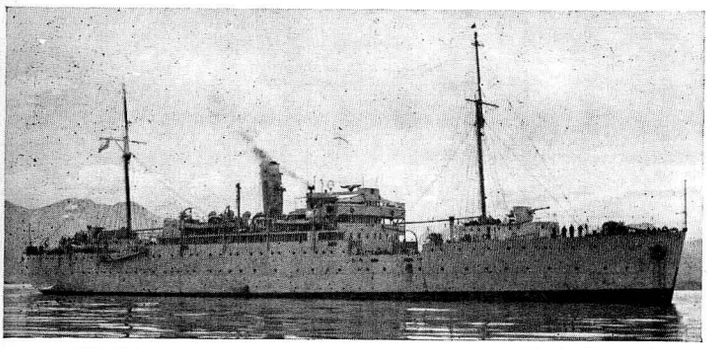
Notes

It is officially stated that one submarine of the "Balao" class is being acquired from the United States instead of two submarines of the "Gato" class. To be delivered in 1961.

Recent Disposals

The old submarines *Almirante Simpson* and *Capitan O'Brien* were officially removed from the list in 1958, and their sister ship *Capitan Thompson* was sold in 1959.

SUBMARINE DEPOT SHIP



ARAUCANO — *Added* 1960, *Official*

ARAUCANO

Builders:	Vickers-Armstrongs, Ltd., Barrow
Laid down:	1 Mar. 1929
Launched:	22 Oct. 1929
Completed:	Mar. 1930
Displacement:	6,438 tons *standard* (9,000 tons *full load*)
Dimensions:	390 (*pp.*), 412¼ (*o.a.*) × 55¼ × 16½ (*mean*), 17½ (*max.*) feet
Guns:	2—4.7 inch, 5—20 mm. AA., 2 M.G.
Aircraft:	1 seaplane
Machinery:	Parsons geared turbines. S.H.P.: 2,400 = 13 kts.
Coal:	670 tons

Notes
Has accommodation for 585 personnel, including crews of attached submarines. Has had a seaplane added to her equipment.

COASTGUARD VESSELS (*Escampavias*)

General Notes
Four or five seagoing patrol craft are included in the new construction and acquisition programme. Coastguard vessels are employed on surveying service.

PILOTO SIBBALD

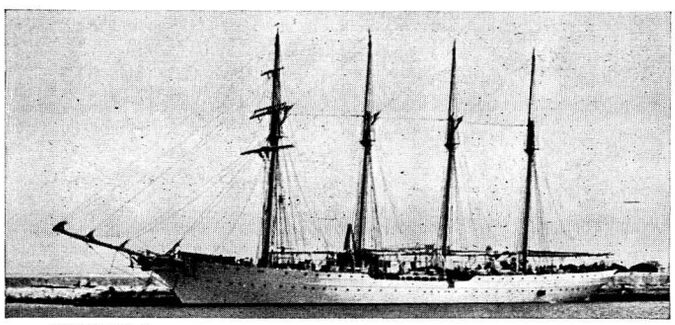
Displacement:	1,100 tons
Dimensions:	141¾ × 28¾ × 11 feet
Machinery:	Triple expansion. 2 screws. I.H.P.: 1,200 = 11·5 kts.
Boilers:	2 cylindrical
Coal capacity:	145 tons
Complement:	18

General Notes
Built by Bow, McLachlan & Co., Paisley. Launched in 1916. Possesses fire-fighting and salvage equipment. During 1916-19 this vessel was taken over by the Royal Navy, in which she served as the *Stoic*. Re-acquired by Chile in 1920. Classed as coastguard vessel.

Photograph Notes
Photograph in the 1957-58 edition.

Recent Disposals
It is officially stated that the old coastguard vessel *Yelcho*, employed on surveying service was removed from the effective list in 1959.

TRAINING SHIP (*Buque Escuela*)



ESMERALDA — 1954, *Chilean Navy*, *Official*

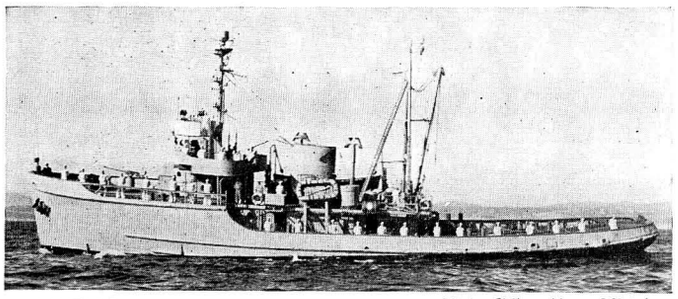
ESMERALDA (ex-*Don Juan de Austria*)

Displacement:	3,040 tons *standard* (3,673 tons *full load*)
Dimensions:	308¾ (*o.a.*), 260 (*pp.*) × 43 × 23 (*max.*) feet
Guns:	2—57 mm.
Sail area:	Total 26,910 sq. feet
Machinery:	1 Fiat Auxiliary Diesel. 1 shaft. B.H.P.: 1,400 = 11 kts.
Range:	8,000 miles
Complement:	271 plus 80 cadets

General Notes
Four-masted schooner completed in 1952. Built in Spain by the Echevarrieta Yard, Cadiz, and originally intended for the Spanish Navy. Transferred to Chile on 12 May, 1953. Near sister ship of *Juan Sebastian de Elcano* in the Spanish Navy. Similar to the Brazilian training ship *Almirante Sadanha*. Replaced transport *Presidente Pinto* as training ship.

Recent Disposals
The smaller and older training ship (school tender) *Vidal Gormaz* was withdrawn from service in 1958. The minelayer *Orompello* was scrapped in 1957.

PATROL VESSELS



LAUTARO — 1956, *Chilean Navy*, *Official*

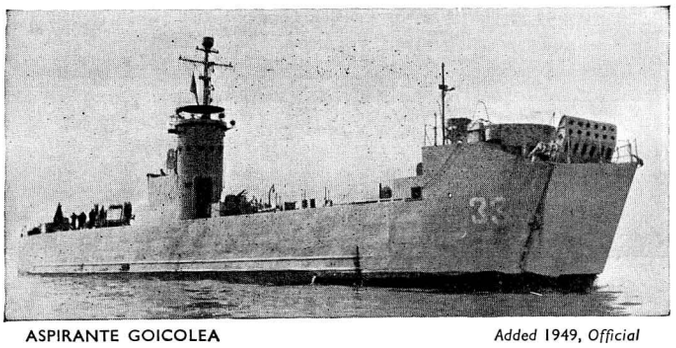
3 "Lautaro" Class

LAUTARO (ex-U.S.S. *ATA* 122, 27 Nov. 1942)
LEUCOTON (ex-U.S.S. *ATA* 200, 8 Sep. 1944)
LIENTUR (ex-U.S.S. *ATA* 177, 5 June 1944)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*) × 33⅝ × 13½ (*max.*) feet
Guns:	1—3 inch AA., 2—20 mm. AA.
Machinery:	General Motors diesel-electric. S.H.P.: 1,500 = 12·5 kts.
Oil fuel:	187 tons
Complement:	33

Notes
Former United States Navy auxiliary ocean Tugs of the ATA type ("Maricopa" class), originally ocean rescue tugs (*ATRs*), transferred to the Chilean Navy and reclassified as patrol vessels. Launch dates above. Built by Levingstone Shipbuilding Co., Orange, Texas, U.S.A. (*Lautaro* and *Lientur*) and Gulfport Boiler & Welding Works, Port Arthur, Texas (*Leucoton*).

LANDING CRAFT (*Barcazas*)



ASPIRANTE GOICOLEA — *Added* 1949, *Official*

ASPIRANTE GOICOLEA — ASPIRANTE IZAZA

Displacement:	743 tons *standard* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7⅓ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 12 kts.
Completed:	60

General Notes
Former U.S. medium landing craft, Ex-*LSM* 400, and ex-LSM 295, respectively. Both launched in 1944.

Recent Disposals
Of two sister ships, the *Aspirante Morel* was withdrawn from service in 1958, and the *Guardiamarina Contreras* was removed from the effective list in 1959.



EDUARDO LLANOS — *Added* 1949, *Official*

CABO BUSTOS — EDUARDO LLANOS

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	159 × 23¾ × 5¾ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320 = 14 kts.

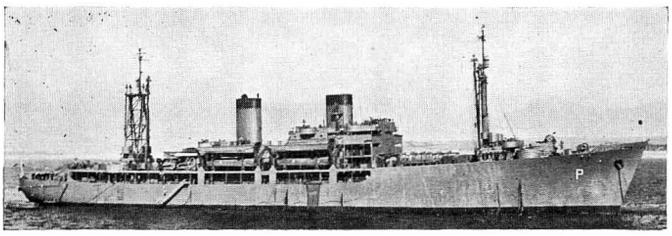
General Notes
Ex-*LCIL* 878 and ex-*LCIL* 1025, respectively. Both launched in 1943. Named after personnel killed in action during the war with Peru and Bolivia, 1879-80.

Recent Disposals
Sister ships *Grumete Bolados*, *Grumete Diar*, *Grumete Tellez* and *Soldado Canaves* were withdrawn from service in 1958.

There are also three small classes of landing craft as follows:
8 of LCP type — **22 of LCVP** type — **2 of LCPL** type

All the above vessels of the LCP, LCVP and LCPL type were purchased from the U.S. Navy in 1947.

ATTACK TRANSPORTS (*Transportes de Ataque*)



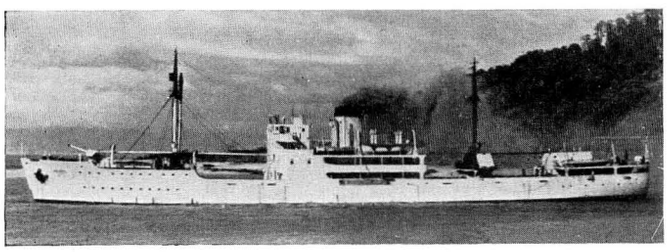
PRESIDENTE PINTO — 1955, *Chilean Navy, Official*

PRESIDENTE ERRAZURIZ (ex-*Xenia*, *AKA* 51, 27 June, 1943)
PRESIDENTE PINTO (ex-*Zenobia*, *AKA* 52, 6 July, 1945)

Displacement:	4,100 tons *standard* (6,744 tons *full load*)
Dimensions:	426 (*o.a.*) × 58 × 16 (*max.*) feet
Guns:	1—4·7 inch, 2—3 inch, 8—40 mm.
Machinery:	Turbo-electric. 2 shafts. S.H.P.: 6,000 = 17 kts.
Boilers:	2 Wickes
Complement:	225 (*Presidente Pinto*)

Notes
Both built by Walsh-Kaiser. Launch dates above. Purchased from the U.S. Navy in Nov. 1946. Distinguished by E and P painted on hulls. *Presidente Errazuriz* served as fleet flagship for a time. *Presidente Pinto* served as a training ship for midshipmen.

TRANSPORTS



ANGAMOS — 1957, *Chilean Navy, Official*

ANGAMOS

Displacement:	3,800 tons *standard*
Dimensions:	315 (*pp.*), 340 (*o.a.*) × 46 × 19¾ feet
Machinery:	Triple expansion. I.H.P.: 2,200 = 12 kts.
Coal:	575 tons
Complement:	72 + 74 passengers or troops

Notes
Built at Aalborg. Laid down on 5 Apr. 1940. Launched in 1941. Delivered in Feb. 1946. Named after the naval victory which, on 8 October 1879, virtually decided the issue of the war against Feru and Bolivia.

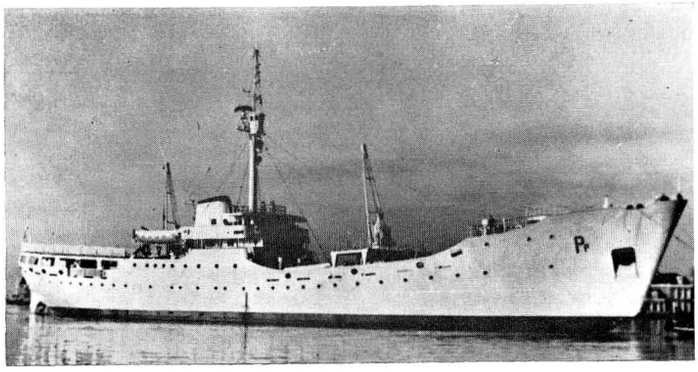
MICALVI (ex-*Boston Lines*, ex-*Bragi*)

Displacement:	850 tons *standard*
Measurement:	612 tons *gross*
Dimensions:	181½ × 28¾ × 11 feet
Machinery:	Triple expansion. I.H.P.: 380 = 9·5 kts.

Notes
Small transport and cargo ship. Built by Ostsee Werft, Stettin. Launched in 1925.

Recent Disposals
It is officially stated that the old transport *Pilcomayo* was removed from the effective list in 1959.

ANTARCTIC PATROL SHIP



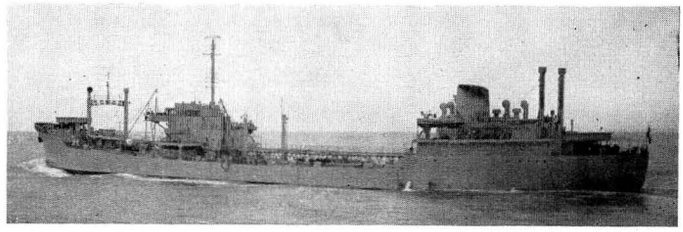
PILOTO PARDO — 1960, *Chilean Navy, Official*

PILOTO PARDO

Displacement:	1,250 tons *light*, 2,000 tons *standard* (*circa* 3,000 tons *full load*)
Dimensions:	269 × 39 × 15 feet
Aircraft:	1 helicopter
Machinery:	2 diesel-electric. H.P.: 2,000 = 14 kts.
Complement:	44 (plus 24 passengers)

Notes
Built by Haarlemsche Scheepsbouw Mij, Haarlem, Netherlands. Antarctic patrol ship, transport, and research vessel with a reinforced hull to navigate in iced zones. For special service in the Southern Ocean. Officially listed as a transport. Delivered in 1959.

OILERS

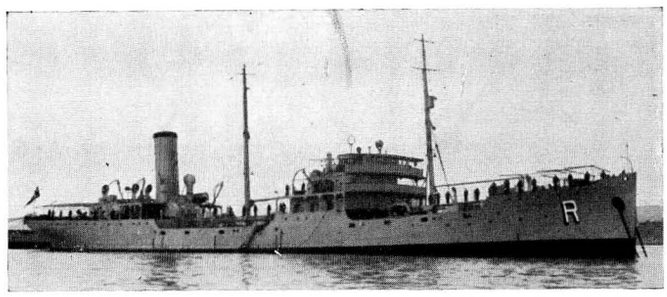


ALMIRANTE JORGE MONTT — 1958, *Chilean Navy, Official*

ALMIRANTE JORGE MONTT

Displacement:	9,000 tons *standard* (17,500 tons *full load*)
Measurement:	11,800 tons *gross*, 17,750 tons *deadweight*
Dimensions:	548 × 67½ × 30 feet
Machinery:	Rateau Bretagne geared turbines. 1 shaft. S.H.P.: 6,300 = 14 kts.
Boilers:	2 Babcock & Wilcox
Radius:	16,500 miles at 14 kts.

Notes
Naval squadron supply tanker. Built by Ateliers et Chantiers de la Seine Maritime, Le Trait, France. Laid down in 1954. Launched on 14 Jan. 1956. Completed in Mar. 1956.



RANCAGUA — 1957, *Chilean Navy, Official*

MAIPO **RANCAGUA**

Displacement:	8,225 tons *standard*
Measurement:	3,800 tons *gross*, 7,715 tons *deadweight*
Dimensions:	365 × 49¾ × 22½ feet
Guns:	2—4·7 inch, 2 M.G. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 4,800 = 15 kts.
Boilers:	4 S.E.
Oil fuel:	725 tons
Complement:	54

Notes
Distinguished by initials of names painted on bows. Names are those of actions during the War of Independence—*Maipo* on 15 Apr. 1818; *Rancagua* on 1 Oct. 1814.

Bow Letter	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
M	*Maipo*	Vickers-Armstrongs, Ltd., Tyne	Mar. 1929	Jan. 1930	Mar. 1930
R	*Rancagua*		Mar. 1929	Nov. 1929	Mar. 1930

SEAGOING TUGS (*Remolcadores de Alta Mar*)

1 Ex-U.S. ATF Type

YELCHO (ex-U.S.S. *Tekesta*, ATF 93)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max.*) feet
Guns:	1—3 inch, 4—40 mm. AA., 2—20 mm. AA.
Machinery:	4 sets of diesels with electric drive. B.H.P.: 3,000 = 16.5 kts.
Complement:	85

Notes
Former United States Navy fleet ocean tug of the ATF type ("Apache" class) fitted with powerful pumps and other salvage equipment. Launched on 20 Mar. 1943. Leased to Chile by U.S.A. with ARD 32 (auxiliary floating dry-dock) in April 1960. Delivered to the Chilean Navy in 1960.

1 "Huemul" Class

HUEMUL (ex-*Vilumilla*)

Displacement:	320 tons
Dimensions:	100 (*w.l.*) × 22 × 13 feet
Machinery:	Triple expansion. I.H.P.: 650 = 12 kts.
Boiler:	1
Coal capacity:	35 tons

Notes
Built at Valdivia and launched in 1937. Another of the same type, *Contramaestre Brit* (ex-*Pelantaro*), was lost.

4 "Cabrales" Class

CABRALES (24 Oct. 1929)
COLOCOLO
GALVARINO
SOBENES (23 Oct. 1929)

Displacement:	790 tons
Dimensions:	126½ × 27 × 12 (*mean*) feet
Machinery:	Triple expansion. I.H.P.: 1,050 = 11 kts.
Fuel:	130 tons coal (except *Cabrales*, 135 tons oil)

General Notes
All built by Bow, McLachlan & Co., Paisley. Launch dates above. *Cabrales* was converted into an oil burner in 1959 (see capacity above). These ships are classed as coastguard vessels.

Recent Disposals
Sister ship *Janequeo* was withdrawn from service in 1958.

Photograph Notes
Photograph of *Galvarino* in the 1953-54 to 1957-58 editions.

PEOPLE'S REPUBLIC OF CHINA

Ships

4	Destroyers	33	Minecraft
17	Frigates	40	Motor Gunboats
24	Submarines	125	M.T.B.s.
4	Escort Vessels	63	Amphibious
27	Submarine Chasers	300	Miscellaneous

Personnel

1960: Naval, 48,000 officers and ratings

1960: Marine, 28,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:

262 vessels of 623,435 tons *gross*

DESTROYERS

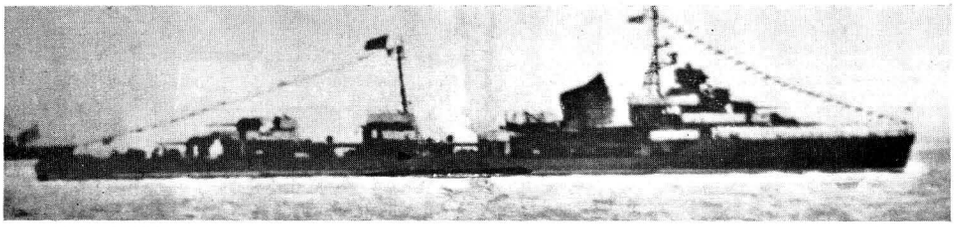
4 Ex-Russian "Gordy" Class

CHANG CHUN **FUSHUN**

Displacement:	1,657 tons *standard* (2,150 tons *full load*)
Dimensions:	357¾ (*pp.*), 377 (*o.a.*) × 33½ × 13 feet
Guns:	4—5·1 inch, 8—37 mm. AA.
Tubes:	6—21 inch (tripled)
A/S weapons:	8 D.C.T.
Mines:	100
Machinery:	Tosi geared turbines. 2 shafts. S.H.P.: 50,000=36 kts.
Boilers:	3-drum type
Oil fuel:	500 tons
Complement:	250

Notes

Of Odero-Terni-Orlando design. All launched in 1936-41. Fitted for minelaying.



CHANG CHUN *Added* 1960

Cruiser Notes

The old cruiser *Kaganovich* was reported to have been lent or leased by the U.S.S.R. to the People's Republic of China. For particulars of this ship, see U.S.S.R. section.

The old light cruiser *Pei Ching* (ex-*Huang Ho*, ex-*Victory*, ex-*Chungking*, ex-H.M.S. *Aurora*) is now a mere hulk. For full particulars see 1959-60 and earlier editions.

FRIGATES

4 "Riga" Class Escorts

Displacement:	1,200 tons *standard* (1,600 tons *full load*)
Dimensions:	295 (*o.a.*) × 31½ × 10 feet
Guns:	3—3·9 d.p. (single mounts); 3—37 mm. AA.
Tubes:	3—21 inch (3 torpedoes)
A/S weapons:	4 depth charge projectors
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000=28 kts.
Complement:	200

Notes

Built in China. First "Riga" class escort, launched about 28 Apr. 1956 at Hutung Shipbuilding Factory, Shanghai, had light tripod mast, but was later converted with heavier mast and larger bridge as in the other three. Second "Riga" class vessel built by the same concern was launched on 26 Sep. 1956. Both are fitted with mine rails. Third vessel of this type was built at Shanghai. Second, third and fourth ships are reported to be of the later "Riga" class.

2 Ex-Japanese Escort Destroyer Types

HUI AN (ex-*Shisaka*)

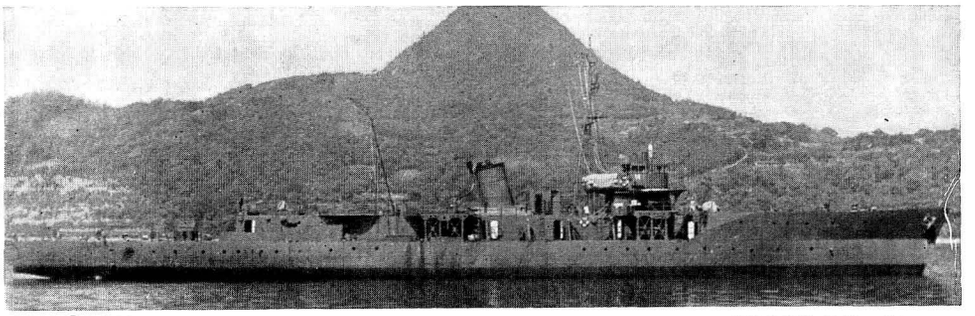
Displacement:	940 tons *standard* (1,020 tons *full load*)
Dimensions:	255 (*w.l.*), 258½ (*o.a.*) × 30 × 10 feet
Guns:	2—4·7 inch, 6 M.G.
Machinery:	2 Diesels. 2 shafts. B.H.P.: 4,200=19·5 kts.
Radius:	5,000 miles at 16 kts.
Complement:	150

Notes

Ex-Japanese "Ukuru" class escort destroyer. Launched in 1943. Completed in 1945. Repaired after 1950 bombing. Sister ship of *Cheng An* which is Nationalist. *Hui An* is ex-Chinese Nationalist name. Was rearmed in 1955

CHANG PAI (ex-Japanese *Oki*, ex-Chinese *Ku An*)

Displacement:	870 tons *standard* (1,020 tons *full load*)
Dimensions:	237⅞ (*pp.*), 250 (*w.l.*), 255 (*o.a.*) × 30 × 10 feet
Guns:	2—3·9 inch; 2—45 mm. AA.
A/S weapons:	60 D.C.
Machinery:	2 Diesels. 2 shafts. B.H.P.: 4,200=19·7 kts.
Radius:	8,000 miles at 16 kts.
Complement:	150



CHANG PAI *Added* 1953, *Hajime Fukaya*

Notes

Ex-Japanese Type A or "Etorofu" class. Built by Uraga Dock Co. Ltd. Laid down on 27 Feb. 1942. Launched on 20 Oct. 1942. Completed on 31 Mar. 1943. Above is new armament mounted in 1955. One raked funnel, two pole masts with tripod bases. Sister ship of *Lin An* held by Nationalists.

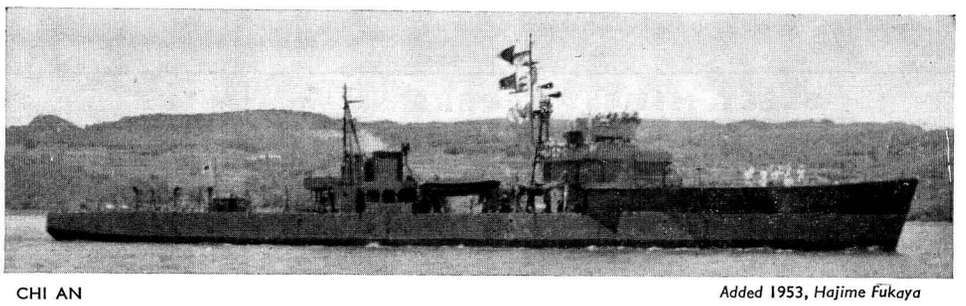
6 Ex-Japanese Corvette Types

CHI AN (ex-*No. 85*)
SHEN YANG (ex-*Yuang An*, ex-*Mukden*, ex-*No. 81*)

Displacement:	745 tons *standard* (810 tons *full load*)
Dimensions:	206¾ (*pp.*), 216½ (*w.l.*), 221½ (*o.a.*) × 27½ × 9½ feet
Guns:	2—4·7 inch, 8 M.G. (*Chi An*); 2—3·9 inch, 4—37 mm. AA. (*Shen Yang*)
A/S weapons:	120 D.C.
Machinery:	2 Diesels. B.H.P.: 1,900=16·5 kts.
Radius:	6,500 miles at 14 kts.
Complement:	136

Notes

Ex-Japanese C or No. 1 Type. *Chi An* built by Tsurumi, laid down on 20 Nov. 1944, launched on 27 Jan. 1945, and completed on 31 May 1945, is now in hulk condition. Above is new armament mounted in *Shen Yang*.

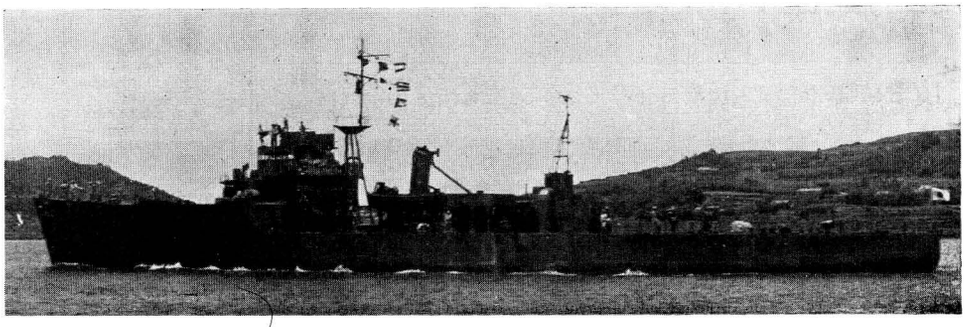


CHI AN *Added* 1953, *Hajime Fukaya*

CHANG SHA (ex-Chinese *Chieh* 12, ex-Japanese *No. 118*)
CHI NAN (ex-*Wei Hai*, ex-*Chieh* 6, ex-*No. 194*)
HSI AN (ex-Chinese *Chieh* 14, ex-Japanese *No. 198*)
WU CHANG (ex-Chinese *Chieh* 5, ex-Japanese *No. 14*)

Name:	*Chang Sha*	*Hsi An*
Builders:	Kawasaki, Sensha Works	Mitsubishi, Zosen Co., Nagasaki
Laid down:	8 June 1944	17 Jan. 1945
Launched:	18 Oct. 1944	26 Feb. 1945
Completed:	27 Dec. 1944	31 Mar. 1945

Displacement:	740 tons *standard* (900 tons *full load*)
Dimensions:	213½ (*pp.*), 223 (*w.l.*), 228 (*o.a.*) × 28¾ × 10 feet
Guns:	2—3·9 inch or 4·7 inch, 3—3 inch or 3 or 6—37 mm. AA., 4—25 mm. or 3—20 mm. AA.
A/S weapons:	120 D.C.
Machinery:	1 steam turbine. S.H.P.: 2,500=17·5 kts.
Radius:	4,500 miles at 14 kts.
Complement:	160



CHANG SHA *Added* 1957, *Hajime Fukaya*

Notes

Ex-Japanese Type D or Kaibokan Class No. 2 Type. Thin trunked funnel amidships. Pole masts with tripod bases.

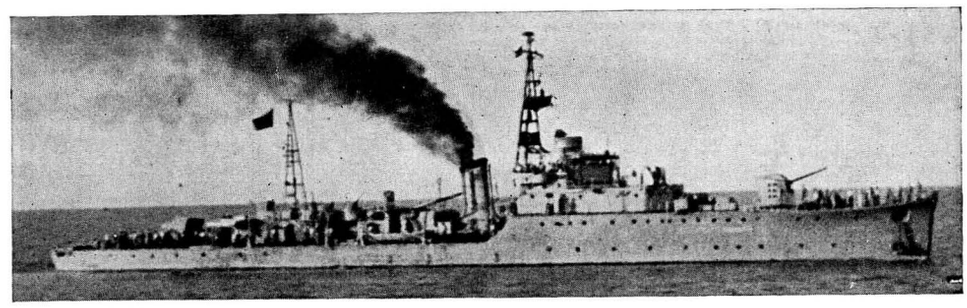
Frigates—*continued*

1 Ex-Japanese Sloop (Gunboat) Type

NAN CHANG (ex-Chinese *Chang Chi*, ex-Japanese *Uji*)

Displacement:	950 tons *standard* (1,206 tons *full load*)
Dimensions:	249½ (*pp.*), 257¼ (*w l.*), 264 (*o.a.*) × 31⅔×8¾ feet
Guns:	2—3·9 inch; 2—3 inch, 4—20 mm. AA.
Machinery:	2 turbines. S.H.P.: 4,600=20·15 kts.
Boilers:	2
Radius:	3,460 miles at 14 kts.
Complement:	170

Notes
Former Japanese sloop or gunboat. Built at Sakurajima Works, Osaka. Launched on 25 Sep. 1940. Completed in 1941. Rearmed by Chinese Republicans in 1955.



NAN CHANG 1956, *K. Long*

1 Ex-Canadian Corvette Type

KUANG CHOU (ex-Chinese *Yuan Pei*, ex-H.M.C.S. *Bowmanville*, ex-*Nunney Castle*)

Displacement:	1,100 tons *standard* (1,580 tons *full load*)
Dimensions:	252 (*o.a.*)×36¾×15¾ (*max.*) feet
Guns:	2—5·1 inch, 1—45 mm. AA., 5—37 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,800=16·5 kts.
Boilers:	2 of three-drum type
Oil fuel:	480 tons
Radius:	8,400 miles at 10 kts.
Complement:	100

Notes
Built by Wm. Pickersgill & Sons, Ltd., Sunderland. Laid down on 12 Aug. 1943. Launched on 26 Jan. 1944. Completed on 8 Oct. 1944.

2 Ex-British Corvette Type

KAI FENG (ex-S.S. *Cloverlock*, ex-H.M.S. *Clover*)
LIN I (ex-S.S. *Ziang Teh*, ex-H.M.S. *Heliotrope*, ex-U.S.S. *Surprise*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*)×33×14½ feet
Guns:	2—3·9 inch; 1—45 mm. AA.; 4—37 mm. AA. (*Kai Feng*) 2—3.9 inch; 2—37 mm. AA. (*Lin I*)
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 S.E.
Fuel:	350 tons coal
Radius:	7,000 miles at 10 kts.
Complement:	78

Notes
Both built in 1940-41. Above three ships were converted from merchant vessels by Chinese Republicans and rearmed. Existence of ex-*Coppercliff* (ex-*Wan Lee*, ex-*Ta Lun*) is doubtful.

SUBMARINES

12 Russian "W" Class

Displacement:	1,050 tons (*standard*); 1,300 tons (*surface*); 1,600 tons (*submerged*)
Dimensions:	245 (*o.a.*)×24×14 feet
Guns:	Some have 1—3·9 inch in a retractable turret before the conning tower 1 light AA. Others 2—57 mm. 2—25 mm.
Tubes:	8—21 inch (6 forward, 2 aft)
Mines:	40 mines or 20 torpedoes
Machinery:	Diesel-electric. 2 shafts. Diesels: B.H.P.: 4,000=16 to 17 kts. (*surface*) Electric motors: H.P.: 2,500=13 to 16 kts. (*submerged*)
Radius:	13,000 to 16,500 miles

Notes
Medium size class of long range submarines similar to those built in yards throughout the Soviet Union. All streamlined. Equipped with snort. Fitted for minelaying.
In July 1959 twelve "W" class submarines were operational with 7 to 9 building. Six to 8 "W" class are being constructed each year at Shanghai and Wuchang yards.

4 Ex-Russian "S" Class

S 400 S 401 S 402 S 403

Displacement:	780 tons *standard*, 840 tons (*surface*)
Dimensions:	256×21×13 feet
Guns:	1—3·9 inch; 1—45 mm. AA.
Tubes:	6—21 inch
Machinery:	Diesel=15 kts. (*surface*); Electric motors=8 kts. (*submerged*)

Notes
All launched in 1937-40. Particulars of individual boats vary slightly.

4 Ex-Russian "Shshuka" Class

Displacement:	620 tons (*surface*); 738 tons (*submerged*)
Dimensions:	190½×19½×13 feet
Guns:	2—45 mm. AA., 2 M.G.
Tubes:	6—21 inch (10 torpedoes)
Machinery:	Diesels. B.H.P.: 1,600=15.5 kts. (*surface*) Electric motors. H.P.: 800=8.5 kts. (*submerged*)
Oil fuel:	60 tons
Radius:	4,000 miles at 8 kts.
Complement:	40

Notes
Medium type. All launched in 1935-47. There are variations in design.

4 Ex-Russian "M-V" Class

M 200 M 201 M 202 M 203

Displacement:	350 tons (*surface*), 400 tons (*submerged*)
Dimensions:	167⅓×16×12 feet
Guns:	1—45 mm. AA., 1 M.G.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 1,000=13 kts. (*surface*) Electric motors. H.P.: 800=10 kts. (*submerged*)
Oil fuel:	21 tons
Radius:	4,000 miles at 8.5 kts. (*surface*) 100 miles at 5 kts. (*submerged*)
Complement:	24

Notes
Designed for coastal operations, now used for training and instruction.

1 Ex-Russian "M-IV" Class

Displacement:	205 tons (*surface*). 256 tons (*submerged*)
Dimensions:	147⅔×11×9 feet
Guns:	1—45 mm. AA., 1 M.G.
Tubes:	2—21 inch.
Machinery:	Diesels. B.H.P.: 800=13 kts. (*surface*) Electric motors H.P.: 400=8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*) 90 miles at 3 kts. (*submerged*)
Complement:	20

Notes
Launched in 1945. For coastal operations. Enlarged and improved edition of "M 1" type. Transported in sections on the Trans-Siberian Railway and assembled at Vladivostok for service in the Pacific.

1 Ex-Russian "M-1" Class

Displacement:	160 tons (*surface*), 200 tons (*submerged*)
Dimensions:	124×10¼×8½ feet
Tubes:	2—21 inch
Machinery:	Diesel. B.H.P.: 685=13 kts. (*surface*) Electric motors. H.P.: 240=7 kts. (*submerged*)
Complement:	15

Notes
No guns. Now employed only for training duties.

FLEET MINESWEEPERS

10 Russian "T 43" Class

Displacement:	410 tons *standard* (530 tons *full load*)
Dimensions:	200×27¼×9 feet
Guns:	4—37 mm. AA.
Machinery:	Diesels=18 kts.

Notes
A new type of moderately fast fleet minesweepers. Two "T43" class minesweepers were acquired from Russia in 1954-55. Four to eight "T43" type minesweepers are reported to have been constructed in Republican China shipyards, two in 1956, and the remainder since.

PATROL VESSELS

18 Ex-Russian "Kronstadt" Class Submarine Chasers

PC 611 PC 612 PC 615

Displacement:	300 tons
Dimensions:	167½×19½×9 feet
Guns:	1—3·9 inch; 2—37 mm. AA.; 3—20 mm. AA.
Machinery:	Diesels. 2 shafts. Speed 27 kts.

Notes
Six built in 1950-53 were received from Russia in 1956-57. Others were built at Shanghai and Canton yards, with 12 completed, 1956. Flush decked, large squat funnels, slightly raked, massive block bridge structure.

6 Ex-Russian "Artillerist" Class

Displacement:	240 tons
Dimensions:	160⅔×19×8½ feet
Guns:	1—3 inch; 12—37 mm. AA.; 3 M.G.; 2 D.C.T.
Machinery:	Diesels. 2 shafts. B.H.P.: 3,300=23 kts.

Patrol Vessels—*continued*

1 Ex-British "Bathurst" Class

Ex-S.S. **CHEUNG HING** (ex-H.M.A.S. *Bendigo*)

Displacement:	815 tons *standard* (1,025 tons *full load*)
Dimensions:	162 (*pp.*), 186 (*o.a.*)×31×8¼ feet
Guns:	2—5·1 inch, 2—37 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,800=15 kts.
Boilers:	2 Admiralty 3-drum small tube type
Oil fuel:	170 tons
Radius:	4,300 miles at 10 kts.
Complement:	85

Notes
Built as fleet minesweeper. Launched in Mar. 1941 at Sydney, Australia. Disposed of as surplus after Second World War. Converted from merchant vessel by Chinese Republicans and rearmed.

2 Ex-British "Isles" Class

(ex-H.M.S. *Hoxa*) (ex-H.M.S. ——)

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*)×27½×14 feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 850=12·5 kts.
Boilers:	1 Cylindrical
Fuel:	183 tons coal
Complement:	45

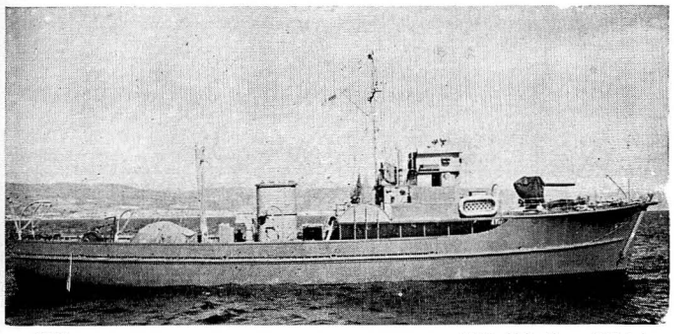
Notes
Former British anti-submarine and minesweeping trawlers. *Hoxa* was built by Cook, Welton & Gemmell, Ltd., in 1941.

(ex-H.M.S. *Bassett*)

Displacement:	461 tons *standard* (696 tons *full load*)
Dimensions:	150 (*pp.*), 160½ (*o.a.*)×27½×10½ feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 850=12 kts.
Boilers:	1 Cylindrical
Fuel:	180 tons coal
Complement:	37

Notes
Former British trawler. Built by Henry Robb, Ltd., Leith. Launched on 28 Sep. 1935. Above three ships, converted into merchant vessels, were acquired by Chinese Republicans and rearmed.

COASTAL MINESWEEPERS



YMS 1944, *U.S. Navy, Official*

5 Ex-U.S. YMS Type

Ex-**YMS 339** Ex-**YMS 346** Ex-**YMS 367** Ex-**YMS 393** Ex-**YMS 2017**

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×6 feet
Guns:	1—3 inch, 2—20 mm., 2 D.C.T.
Machinery:	2 G.M. Diesels. B.H.P.: 1,000=13 kts.
Complement:	50

Notes
Built of wood in U.S.A. in 1942-43, and transferred to the Chinese Navy in 1948. Some are fitted as minesweepers, others as gunboats.

2 Ex-Japanese AMS Type

Ex-**No. 4** **No. 201** (ex-*No.* 14)

Displacement:	215 to 222 tons
Dimensions:	97⅛ (*o.a.*)×19½×7½ (*max.*) feet
Guns:	1—3·1 inch, 4—25 mm. (No. 201, 1—40 mm., 1—25 mm., 2—13 mm., 3—7·7 mm.)
Machinery:	1 Diesel. B.H.P.: 300=9·5 kts.
Radius:	1,700 miles at 9·5 kts.

Notes
Ex-Japanses auxiliary minesweepers. Trawler type. No. 201, completed in 1943, was delivered to China at Tsingtau on 3 Oct. 1947, and taken over by the Republicans. Nos. 19 and 22 were taken over by the Nationalists, see later page.

MOTOR GUNBOATS

"Swatow" Class

Notes
A new class with "P 6" type M.T.B. hulls, mounting twin 37 mm. guns fore and aft, but with some units having only one twin 37 mm. mounting. No torpedo tubes.

3 Ex-U.S. Type

Ex.-**PGM 12** Ex-**PGM 14** **KAN TANG** (ex-*PGM* 15)

Displacement:	280 tons *standard*, 348 tons (trial), 450 tons *full load*
Dimensions:	170 (*w.l.*), 173½ (*o.a.*)×23×11 (*max.*) feet
Guns:	1—3 inch, 50 cal. d.p., 2—40 mm. AA. (twin)
Machinery:	G.M. Diesel. 2 shafts. B.H.P.: 2,800=20 kts.
Complement:	65

Notes
Former American patrol vessels (motor gunboats).

MOTOR TORPEDO BOATS

"P 4" Class

Notes
Several of this class reported. There are approximately 100 other motor torpedo boats of 40ft. and 70ft. length, with armament of 2 torpedo tubes and twin M.G.

50 "P 6" Class

Notes
"P6" class motor torpedo boats are under construction in Chinese Republican yards; 12 were completed in 1956.

KUAI 102

Displacement:	60 tons *standard*
Dimensions:	92×14×5 feet
Machinery:	Speed: 30 to 33 kts. (*max.*)
Complement:	14

Notes
Built in Germany in 1936-37. A large motor torpedo boat is reported to be at Shanghai.

PATROL CRAFT

2 Ex-Japanese Type

Ex-**KWANG KUO** (ex-Japanese *No.* 223) Ex-**HSIEN FENG** (ex-Chinese *Kao Ming*, ex-Japanese)

Displacement:	135 tons
Dimensions:	96×19×9 feet

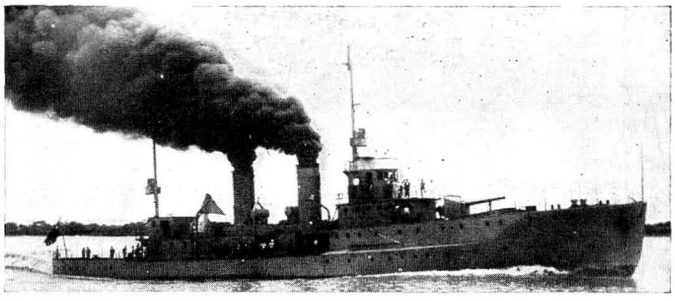
Notes
S.C. Type. Built in 1941-43. (The ex-British harbour defence motor launches were lost.)

GUNBOATS

Ex-**WEI NING**

Displacement:	300 tons *standard*
Dimensions:	141×22×8 feet
Guns:	2—2·4 inch, 3 M.G.
Machinery:	Reciprocating. I.H.P.: 600=10 kts.

Notes
Built at Shanghai in 1933. Reported sunk in 1949 but believed to have been salvaged.



YUNG SUI *Added* 1957

Ex-**YUNG SUI**

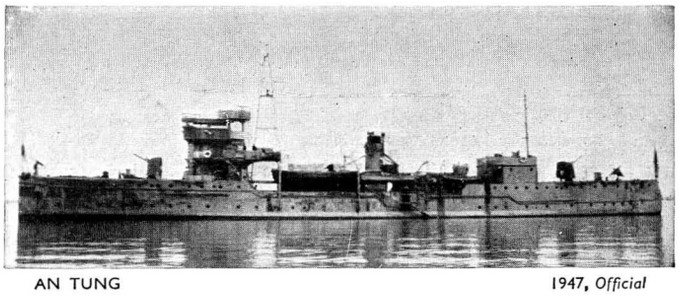
Displacement:	650 tons
Dimensions:	225×30×6 feet (*mean*), 7 (*max.*) feet
Guns:	1—3 inch AA., 1—40 mm. AA., 4 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 4,000=12 kts.
Boilers:	2 Yarrow. Coal fired
Complement:	152

Notes
Built by Kiangnan Dock Co., Shanghai. Launched in 1929. Salvaged and repaired after sinking in 1949. *Yung Sui* is ex-Chinese Nationalist name.

CH'ANG CHIANG (ex-*Ming Chuan*)

Displacement:	464 tons
Dimensions:	176¾×26×6 feet (*mean*), 6½ (*max.*) feet
Guns:	Only 3 M.G. at present
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,200=12 kts.
Boilers:	2 Yarrow
Coal:	280 tons
Complement:	119

Notes
Built by Kiangnan Dock Co., Shanghai. Launched in 1929.

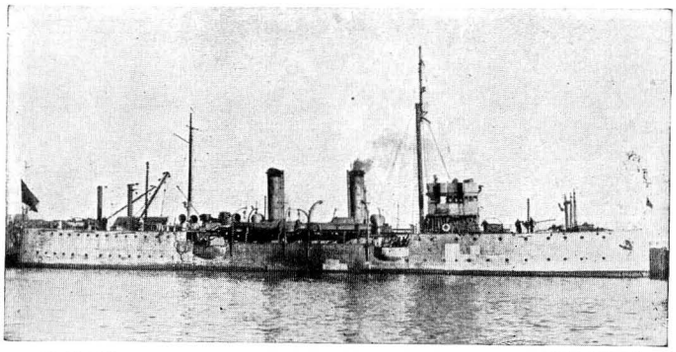


AN TUNG 1947, *Official*

Ex-**AN TUNG** (ex-Japanese *Ataka*, ex-*Nakoso*)

Displacement:	727 tons
Dimensions:	222×32×7½ feet
Guns:	2—3 inch, 5—25 mm., 6 M.G.
Machinery:	Triple expansion. I.H.P.: 1,700=11 to 14 kts.
Boilers:	2 Kampon

Notes
Launched in April, 1922.



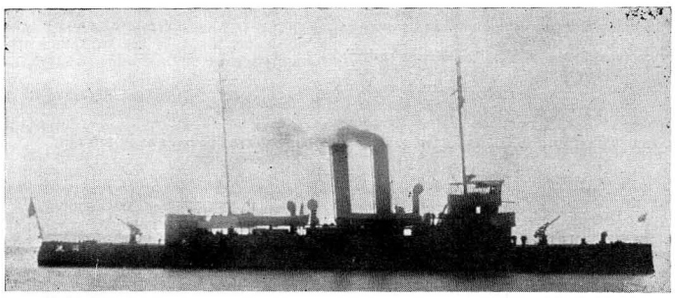
YEN AN 1947, *Official*

Ex-**YEN AN** (ex-*Yung Chi*, ex-Japanese *Asuka*, ex-*Yung Chi*)

Displacement:	860 tons
Dimensions:	205 (*pp.*), 215½ (*o.a.*)×29½×11½ feet (*max.*)
Guns:	2—3 inch, 4 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 kts.
Boilers:	2 cylindrical
Coal:	156 tons
Complement:	143

Notes
Built by Kiangnan Dock Co., Shanghai. Launched in 1915. Sunk in 1945 and later salvaged.

Gunboats—*continued*

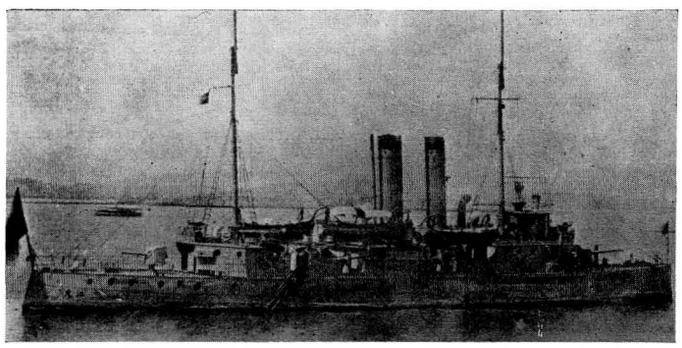


CHU TUNG *Added* 1957

Ex-CHU TUNG

Displacement:	740 tons
Dimensions:	200×30×8 feet
Guns:	2—3 inch, 5—25 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 Kts.
Boilers:	Yarrow
Coal:	150 tons
Complement:	117

Notes
Built by Kawasaki Co., Kobe. Launched in 1906. Sister ship of *Chu Kwan* (Nationalist).



CHIANG YUAN *Added* 1957

CHIANG YUAN

Displacement:	550 tons
Dimensions:	170 (*pp.*), 180 (*o.a.*)×28×7 feet
Guns:	1—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 950=9 kts.
Boilers:	Watertube
Coal:	113 tons
Complement:	127

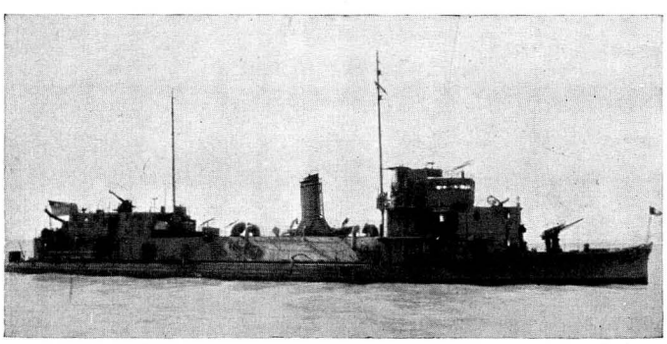
Notes
Built by Kawasaki Co., Kobe. Launched in 1905.

TING HSIN **TUNG TEH**

Displacement:	500 tons *standard*
Guns:	1—3 inch, 4—47 mm.
Machinery:	Speed: 11 to 15 kts. *max.*
Fuel:	Coal

Notes
Captured by Chinese Republicans in 1949.

RIVER GUNBOATS



CHIANG FENG 1947, *Official*

Ex-CHIANG FENG (ex-Chinese *Kiang Shih*, ex-Japanese *Fushima*)
Ex-CHIANG HSI (ex-Chinese *Nan Chang*, ex-Japanese *Sumida*)

Displacement:	373·6 tons, official Japanese figure, 320 tons *standard*
Dimensions:	159⅛ (*pp.*), 164 (*w.l.*), 165 (*o.a.*)×32½×4½ feet
Guns:	1—3·1 inch H.A. short cal., 8—25 mm. and other cal. AA.
Machinery:	2 geared turbines. 2 shafts. S.H.P: 2,200=16·7 kts. (designed)
Boilers:	2 Kampon
Radius:	1,496 miles at 14 kts.
Complement:	64

Notes
Both ships were built by Fujinagata Co., Osaka. Launched on 26 March 1939 and 30 October 1939, respectively. Completed on 15 July 1939 and 31 May 1940, respectively. Were the latest river gunboats in the Japanese Navy. *Fushima* bombed and bottomed at Anking on 29 Nov. 1944, was salvaged and towed to Shanghai for repairs and was moored there at the end of the war. *Sumida* was at Shanghai at the end of the war; her armament has been removed for land batteries.

River Gunboats—*continued*

Ex-YING HAO (ex-H.M.S. *Sandpiper*)

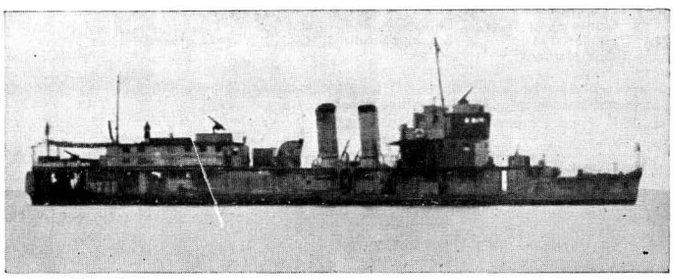
Displacement:	185 tons
Dimensions:	160×30⅜×2 (*mean*) feet
Guns:	1—3·7 inch howitzer, 9 smaller
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 600=11 kts.
Boilers:	1, of Admiralty 3-drum type
Complement:	40

Notes
Built by John I. Thornycroft & Co. Ltd., Southampton. Launched on 9 June, 1933. Presented to Nationalist China by Great Britain in Feb. 1942, and subsequently taken over by the Republicans. Now has mainmast.

Ex-NAN CHIANG (ex-*Ying Teh*, ex-*Ling Huan*, ex-H.M.S. *Falcon*)

Displacement:	372 tons
Dimensions:	150×28⅜×5 (*mean*) feet
Guns:	1—3·7 inch howitzer, 2—6 pdr., 10 M.G.
Machinery:	Parsons geared turbines. S.H.P.: 2,250 = 15 kts.
Boilers:	2, of Admiralty 3-drum type
Fuel:	84 tons oil
Complement:	55

Notes
Built by Yarrow & Co., Ltd., Scotstoun, Glasgow. Launched in 1931. Presented to Nationalist China by the British Government in Feb. 1942, and subsequently taken over by the Republicans.



YUNG PING 1947, *Official*

Ex-YUNG AN (ex-*Futami*) **Ex-YUNG PING** (ex-*Atami*)

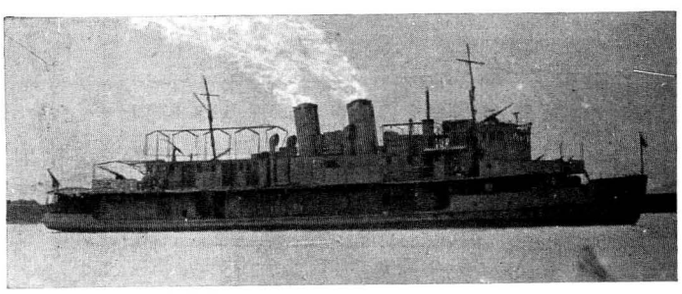
Displacement:	170 tons
Dimensions:	148½×22×4⅜ feet
Guns:	1—47 mm. AA., 5—25 mm. AA., 3 M.G.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 1,200=12 kts.
Boilers:	2 Kampon
Oil fuel:	53 tons
Complement:	77

Notes
Both launched in 1929. Former Japanese river gunboats.

Ex-YING SHAN (ex-H.M.S. *Gannet*)

Displacement:	310 tons
Dimensions:	177 (*w.l.*), 184⅜ (*o.a.*)×29×3¼ feet
Guns:	2—3 inch AA., 8 M.G.
Machinery:	Geared turbines. Designed S.H.P.: 2,250=16 kts.
Boilers:	Yarrow
Fuel:	60 tons oil
Complement:	55

Notes
Designed by Yarrow. Built by Yarrow & Co. Ltd., Scotstoun, Glasgow. Launched in 1927. Presented to Nationalist China by Great Britain in Feb. 1942, and subsequently taken over by the Republicans.



TAI YUAN 1947, *Official*

Ex-MEIYUAN (ex-U.S.S. *Tutuila*) **Ex-TAI YUAN** (ex-*Tatara*, ex-U.S.S. *Wake*, ex-*Guam*.

Displacement:	370 tons *standard*
Dimensions:	150 (*w.l.*)×159½ (*o.a.*)×27×5¼ (*mean*—fresh water), 6 (*max.*) feet
Guns:	2—3 inch, 23 cal., 10 M.G.
Machinery:	Triple expansion. I.H.P.: 1,950=12 kts.
Oil fuel:	75 tons
Complement:	70

Notes
Built by Kiangnan Dock Co., Shanghai. Launched on 14 June and 28 May 1927 respectively. *Mei Yuan* was presented to China by the U.S. Government in March 1942. Sister ship was recovered from Japanese hands and presented to China in 1946.

Ex-CHANG TEH (ex-*Seta*)

Displacement:	305 tons
Dimensions:	180×27×3½ feet
Guns:	2—3 inch, 6 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,100=14 kts.
Boilers:	2 Kampon
Oil fuel:	85 tons
Complement:	82

Notes
Japanese prize, built at Harima yard. Launched in 1923. Ex-Japanese *Katada* of the same class may still exist.

River Gunboats—*continued*

Ex-KIANG KUN (ex-Japanese *Narumi*, ex-Italian *Ermanno Carlotto*)

Displacement:	180 tons *standard*
Dimensions:	160 × 24½ × 2¾ feet
Guns:	2—3 inch, 6 M.G.
Machinery:	Designed I.H.P.: 1,100=14 kts (*max.*)
Boilers:	2 Yarrow
Oil:	56 tons
Complement:	60

Notes

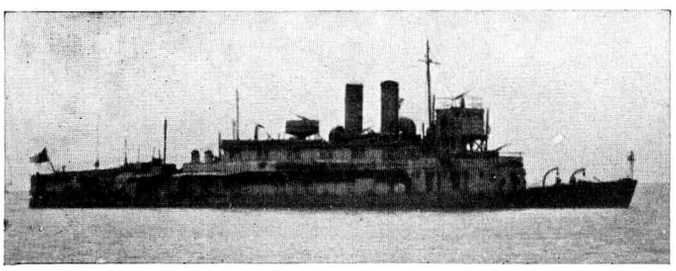
Built by Shanghai Dock & Engineering Co. Launched in 1921. Completed in 1921. Shallow draught river gunboat. Twin screws in tunnels.

Ex-FAKU (ex-French *Balny*)

Displacement:	201 tons
Dimensions:	167½, 179 (*o.a.*) × 23 × 5 feet
Guns:	1—3 inch AA., 2—1 pdr., 4 M.G.
Machinery:	Triple expansion. I.H.P.: 920=14 kts.
Boilers:	2 Fouche water tube
Fuel:	45 tons coal
Range:	900 miles at 14 kts.
Complement:	49

Notes

Built by Chantiers de Bretagne, Nantes. Launched in 1920. Completed in 1921.



HO HSEUH 1947, *Official*

Ex-HO HSEUH (ex-Chinese *Yang Ch'i*, ex-Japanese *Toba*)

Displacement:	215 tons
Dimensions:	180 × 27 × 2½ feet (*mean*), 4 feet (*max.*)
Guns:	3—3 inch, 3—25 mm. AA., 3 M.G.
Machinery:	Triple expansion 2 shafts. I.H.P.: 900=9 kts.
Boilers:	2 Kampon
Coal:	80 tons
Complement:	86

Notes

Former Japanese shallow draught river gunboat. Built by Sasebo, Japan. Launched in 1911.

Ex-WU FENG (ex-Japanese *Maiko*, ex-Portuguese *Macau*)

Displacement:	100 tons
Dimensions:	120 (*o.a.*) × 20 × 2 feet
Guns:	2—6 pdr., 3 M.G.
Machinery:	H.P.: 250=11·8 kts.
Boilers:	1 Yarrow
Complement:	24

Notes

Former Portuguese very shallow draught river gunboat. Built by Yarrow & Co. Ltd., Scotstoun, Glasgow. Launched in 1909.

NETLAYER

Ex-Japanese No. 101, (ex-H.M.S. *Barlight*)

Displacement:	750 tons *standard* (1,000 tons *full load*)
Dimensions:	150 (*pp.*), 173¾ (*o.a.*) × 32½ × 9½ feet
Guns:	1—3 inch d.p., 6 M.G.
Machinery:	Triple expansion. I.H.P.: 850=11.75 kts.
Boilers:	2 single-ended
Complement:	32

Notes

Boom defence vessel of British " Bar " Class. Built by Lobnitz & Co. Ltd., Renfrew. Launched on 10 Sept. 1938. Captured by Japanese in 1941. Acquired by China in 1945.

SURVEYING SHIPS

Ex-CHUNG NING (ex-Japanese *Takebu Maru*)

Displacement:	200 tons *standard*
Dimensions:	115 × 16 × 6 feet
Machinery:	Speed: 10 kts.

Notes

Fomer Japanese. Employed for hydrographic and general purpose duties.

Ex-FUTING

Displacement:	160 tons *standard*
Dimensions:	90 × 20 × 8 feet
Machinery:	Speed: 11 kts.

REPAIR SHIP

Ex-HSING AN (ex-*Achilles*, *ARL* 41, ex-*LST* 455)

Displacement:	1,625 tons *light*, 3,960 tons *normal* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	1—3 inch, 8—40 mm. AA.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 1,800=11 kts.

Notes

Ex-U.S. Launched on 17 Oct., 1942. Burned and grounded in 1949 ,salved and refitted.

LANDING SHIPS

12 LST Type

Ex-CHING KANG SHAN
Ex-CHUNG 101 (ex-U.S.S. *LST* 804)
Ex-CHUNG 102 (ex-U.S.S. *LST*)
Ex-CHUNG 106 (ex-U.S.S. *LST* 589)
Ex-CHUNG 107 (ex-U.S.S. *LST* 1027)
Ex-CHUNG 110
Ex-CHUNG 111 (ex-U.S.S. *LST* 805)
Ex-CHUNG 116 (ex-U.S.S. *LST* 406)
Ex-CHUNG 122 (ex-*Ch'ing Ling*)
Ex-CHUNG 125
No. 16
No. 258

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=11 kts.
Complement:	80 to 210

13 LSM Type

Ex-HUA 201 (ex-U.S.S. *LSM* 112)
Ex-HUA 202 (ex-U.S.S. *LSM* 248)
Ex-HUA 204 (ex-U.S.S. *LSM* 430)
Ex-HUA 205 (ex-U.S.S. *LSM* 336)
Ex-HUA 207 (ex-U.S.S. *LSM* 282)
Ex-HUA 208 (ex-U.S.S. *LSM* 42)
Ex-HUA 209 (ex-U.S.S. *LSM* 153)
Ex-HUA 211
Ex-HUA 212

Ex-CHUAN SHIH SHUI
Ex-HUANG HO (ex-Chinese *Mei Sheng*, ex-U.S.S. *LSM* 433)
Ex-HUAI HO (ex-Chinese *Wan Fu*)
Ex-YUN HO (ex-Chinese *Wang Chung*)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8¾ feet
Machinery:	Diesel. 2 shafts. 2,800=12 kts.
Complement:	60 to 120

Notes

Built in U.S.A. in 1944-45. Some were converted for minelaying. Armament varies.

LANDING CRAFT

15 LSIL Type

MIN 301 **MIN 303** **MIN 306** **MIN 311** **MIN 312** **MIN 313** **MIN 319** **MIN 321** **MIN 325** **MIN 331**

Ex-CHU TIEN (ex-Chinese *Lien Kuang*, ex-U.S.S. *LCI* 517)
Ex-KU CHOU
Ex-U.S.S. **LC! 488**
Ex-LIEN PI (ex-U.S.S. *LCI* 514)
Ex-YUNG KAN (ex-Chinese *Lien Yung*, ex-U.S.S. *LCI* 632)

Displacement:	230 tons *light* (387 tons *full load*)
Dimensions:	159 × 23¾ × 5¾ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320=14 kts.
Complement:	30 to 80

Notes

Built in U.S.A. in 1943-45. Reported to be fitted with rocket launchers. Some are fitted as minesweepers. Armament varies.

2 LCU (ex-LCT) Type

Ex-HO CHIEN (ex-U.S.S. *LCT* 515) **Ex-HO YUNG** (ex-U.S.S. *LCT* 1171)

Displacement:	160 tons *light* (320 tons *full load*)
Dimensions:	105 (*w.l.*), 119 (*o.a.*) × 33 × 5 feet
Machinery:	Diesel. 3 shafts. B.H.P.: 475=10 kts.
Oil fuel:	80 tons

Notes

Former United States Navy Tank Landing Craft later reclassified as Utility Landing Craft.

SUPPLY SHIPS

Ex-U.S.Army FS 146 (ex-*Clover*)
Ex-U.S. Army FS 155 (ex-*Violet*)
Ex-TA CHEN (ex-U.S.)
Ex-U.S. Army FS ——
Ex-U.S. Army FS ——

Displacement:	1,000 tons *standard*
Dimensions:	175 (*o.a.*) × 32 × 10 feet
Machinery:	General motors diesels. B.H.P.: 1,000=12 kts.

Notes

Built in U.S.A. in 1944-45. Two are reported to be employed as motor torpedo boat tenders.

TROOP TRANSPORT

CHIAO JEN

Displacement:	1,873 tons

Notes

Formerly a Chinese Nationalist troop transport. Mined on 28 July 1949. Suffered machinery derangement but no hull damage. After survey crew hoisted Communist flag and took her to Canton.

OILERS

Notes

One or more ex-U.S. Navy 174 ft. yard oilers and other naval tankers are in service.

TUGS

Notes

One or more ex-U.S. Army 149 ft. LT class tugs and other naval tugs are in service.

COLOMBIA

Administration

Commander-in-Chief of the Naval Forces:
Major-General Alfredo Duarte Blum.
Commandant of the Navy:
Rear Admiral Juan A. Pizarro.

Commander of the Fleet:
Capitan de Navio Jaime Eraso Annexy.

Chief of Naval Staff:
Capitan de Navio Augusto G. Porto Herrera.

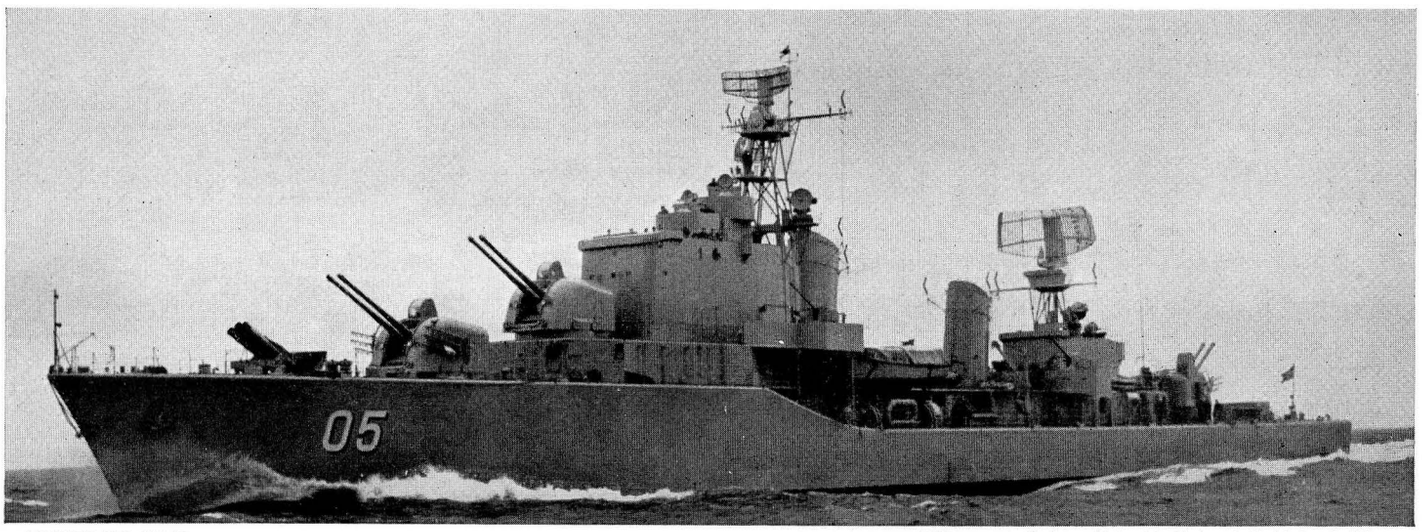
Personnel

1960: 6,000 officers and men

Ships

Ships' names are prefaced by the letters "A.R.C." (Armada Republica de Colombia)

DESTROYERS (*Destructores*)



VEINTE DE JULIO

1958, *courtesy Kockums Mekaniska Verkstads Aktiebolag, Builders*

2 Modified "Halland" Type

SIETE DE AGOSTO (ex-*Trece de Junio*)
VEINTE DE JULIO

No	Name	Laid down	Launched	Completed
06	*7 de Agosto*	Nov. 1955	19 June, 1956	31 Oct. 1958
05	*20 de Julio*	Oct. 1955	26 June, 1956	15 June, 1958

Displacement: 2,650 tons *standard* (3,100 tons *full load*) officially revised figures
Dimensions: 380½ (*pp.*),397½ (*o.a.*) × 40⅔ × 12½ feet
Guns: 6—4·7 inch, (3 twin turrets), 4—40 mm. AA. (single mounts)
Tubes: 4—21 inch
A/S Weapons: 1 quadruple rocket launcher
Machinery: De Laval double reduction geared turbines. 2 shafts. S.H.P.: 55,000=35 kts.
Boilers: 2 Penhoët, Motala Verkstad design
Complement: 260 (20 officers, 240 men)

Notes

Modified "Halland" type ordered in 1954. Built in Sweden by Götaverken and Kockums respectively. The hull and machinery are similar to the Swedish "Halland" type, but they have different armament (six 4·7 inch instead of four, no 57 mm. guns, four 40 mm. guns instead of six, and four torpedo tubes instead of eight) and different accommodation arrangements. They have an anti-submarine rocket projector, more radar and communication equipment, and air conditioned living spaces, having been designed for the tropics. The change of name from 13 *de Junio* to 7 *de Agosto* was decreed by the Colombian Navy in July 1957.

2 "Antioquia" Class

ANTIOQUIA (ex-*Douro*) **CALDAS** (ex-*Teio*)

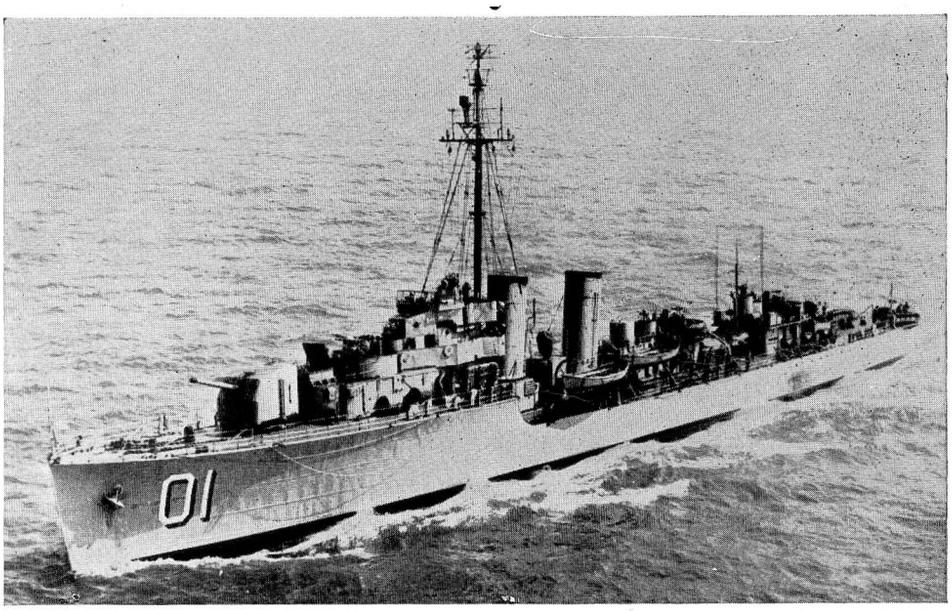
Displacement: 1,142 tons *light*, 1,304 tons *standard* (1,588 tons *full load*)
Dimensions: 319 (*pp.*), 322 (*o.a.*) × 31 × 11 (*max.*) feet
Guns: 2—5 inch, 38 cal. AA., 6—40 mm. AA.
A/S weapons: 1 Hedgehog, 6 D.C.T., 2 D.C. racks
Tubes: 4—21-inch, in quadruple mounting
Machinery: 4 Parsons geared turbines. 2 shafts. S.H.P.: 33,000=36 kts. (sea speed 30 kts.)
Boilers: 3 Yarrow, working pressure 400 lb.
Oil fuel: 296 tons
Radius: 3,400 miles at 15 kts.
Complement: 165 (12 officers, 153 ratings)

Notes

Both Yarrow type laid down at Lisbon for Portugal and purchased in 1934. Fitted for minelaying. *Antioquia* was entirely modernised at Cartagena naval base in 1952. New armament installed in U.S.A. in 1953 included single fully automatic 5-inch guns with Mk. 52 fire control director, and twin Bofors with Mk. 26 radar equipment. *Caldas* underwent similar refit and rearmament in 1954 (completed Nov. 1955).

Pennant No.	*Name*	*Builders*
DD 01	*Antioquia*	Soc. de Constr. Lisbon
DD 02	*Caldas*	Soc. de Constr. Lisbon

Name	*Launched*	*Completed*	*Refitted*
Antioquia	9 June 1932	June 1934	1952-1953
Caldas	18 Nov. 1933	Feb. 1934	1954-1955



ANTIOQUIA

1957, *Colombian Navy, Official*

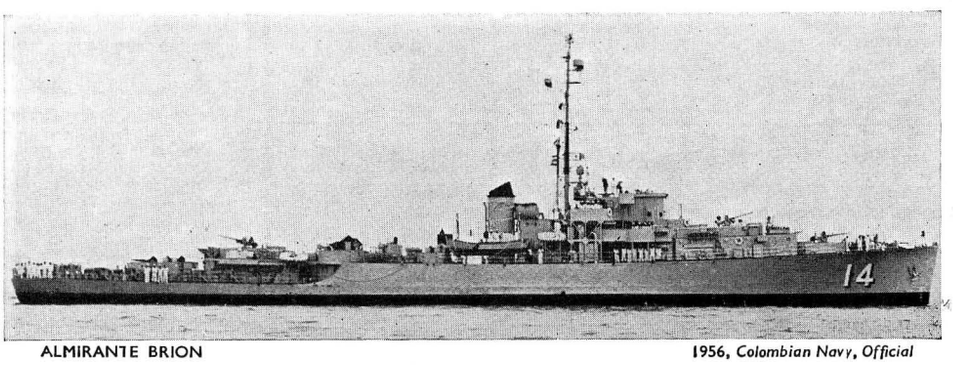
FRIGATES (*Fragatas*)

3 "Almirante Padilla" Class

Ex-U.S. PF Type

ALMIRANTE BRIÓN (ex-U.S.S. *Burlington*)
ALMIRANTE PADILLA (ex-U.S.S. *Groton*)
CAPITAN TONO (ex-U.S.S. *Bisbee*)

Displacement: 1,430 tons *standard* (2,100 tons *full load*) *Capitan Tono* 2,200 tons *full load*)
Dimensions: 303½ × 37½ × 13⅔ feet
Guns: 3—3 inch, 50 cal.: 6—40 mm. AA.
A/S weapons: 1 Hedgehog, 6 D.C.T., 2 D.C. racks
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers: 2, of 3-drum type
Oil fuel: 290 tons
Complement: 120 (*Capitan Tono* 103, *Almirante Padilla* 147)



ALMIRANTE BRION

1956, *Colombian Navy, Official*

FRIGATES—*continued*

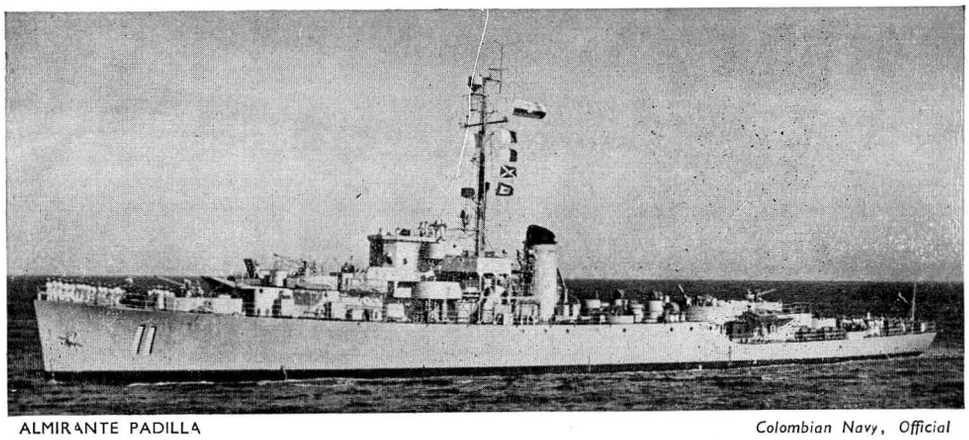
"Almirante Padilla" Class—*continued*

Notes

Almirante Padilla was purchased from the U.S. Navy in 1947. and served in Korean waters in 1951. *Capitan Tono* (transferred to Russia during Second World War) was acquired from the U.S. in 1952, and served 14 months in Korean waters as did *Almirante Brión* acquired in 1953.

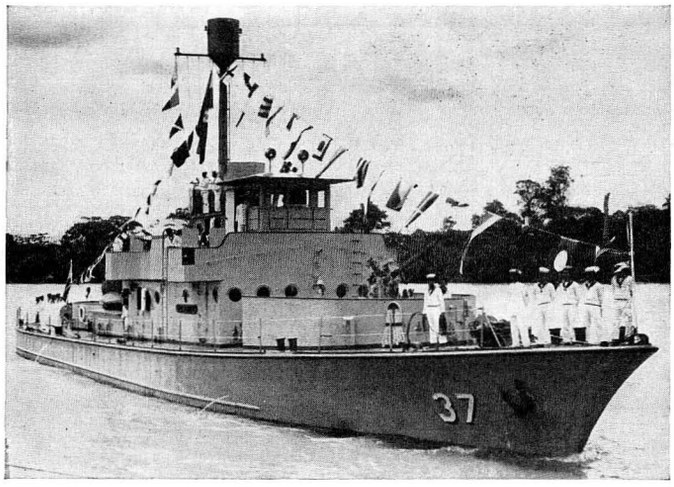
Pennant No.	Name	Builders
FG 14	*Almirante Brión*	Consolidated Steel Corp., Los Angeles
FG 11	*Almirante Padilla*	Walter Butler, Superior, Wisc.
FG 12	*Capitan Tono*	Consolidated Steel Corp., Los Angeles

Name	Laid down	Launched	Completed
Almirante Brion	19 Oct. 1943	7 Dec. 1943	3 Apr. 1944
Almirante Padilla	15 July 1943	14 Sep. 1943	15 Sep. 1944
Capitan Tono	7 Aug. 1943	8 Sep. 1943	4 Feb. 1944



ALMIRANTE PADILLA — *Colombian Navy, Official*

RIVER GUNBOATS



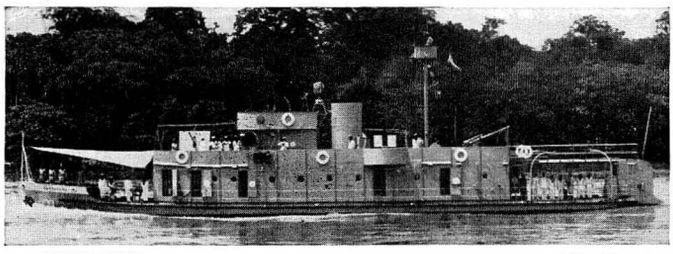
ARAUCA — 1957, *Official*

3 "Arauca" Class

	ARAUCA	LETICIA	RIOHACHA
Displacement:	184 tons		
Dimensions:	163¼ (*o.a.*) × 23½ × 2¾ feet		
Guns:	2—3 inch d.p., 50 cal. 4—20 mm.		
Machinery:	2 Caterpillar engines. B.H.P.: 916 = 13 kts.		
Range:	1,000 miles		
Complement:	43		

Notes

Built by Union Industrial de Barranquila (Unial) Colombia. Launched in 1955. Completed in 1956. Pennant Nos. 37, 36 and 35, respectively.



CARTAGENA — 1957, *Official*

3 "Barranquila" Class

	BARRANQUILA	CARTAGENA	SANTA MARTA
Displacement:	142 tons		
Dimensions:	130 (*pp.*), 137¾ (*o.a.*) × 23½ × 2¾ (*max.*) feet		
Guns:	2—3 inch, 1—20 mm. AA., 4 M.G.		
Machinery:	2 Gardner semi-Diesel engines. 2 shafts, working in tunnels. H.P.: 600 = 15·5 kts.		
Fuel:	24 tons		
Complement:	39		

Notes

These three vessels represented an extraordinarily efficient type of shallow draught gunboat, incorporating many improvements on previous types. Hull is of galvanised steel, and machinery spaces, cabins and magazines are of bullet-proof plating. Ventilation and refrigerating plant designed to secure excellent habitability. Names are those of Colombian ports. All built by Yarrow & Co., Ltd., Scotstoun, Glasgow, and launched on 10 May 1930, 26 Mar. 1930, and 16 Apr. 1930 respectively. *Barranquila* and *Santa Marta* have been modernised in Cartagena, with new armament, engines, auxiliaries and superstructure.

PRESIDENTE MOSQUERA

Displacement:	230 tons
Dimensions:	127½ × 26¾ × 4½ feet
Guns:	1—3 inch, 2—20 mm. AA., 7 M.G.
Machinery:	Triple expansion (stern wheel) = 11 kts.
Complement:	60

Notes

Launched in 1912. Refitted in 1952 and was still operational until recently.

GUNBOAT

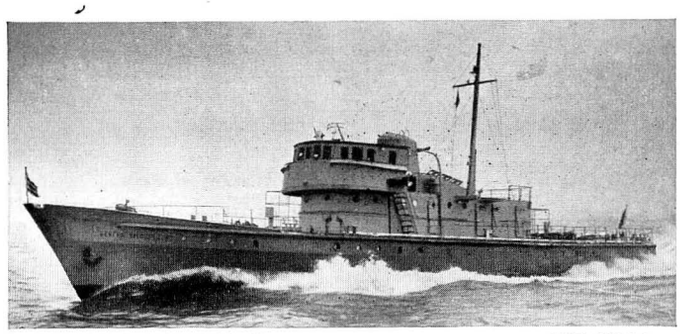
RENATO BELUCHE

Displacement:	180 tons
Dimensions:	155 × 19 × 7 feet
Guns:	1—3 inch A.A.
Machinery:	2 Maybach diesels. B.H.P.: 2,400 = 18 kts.

Notes

Launched on 11 Nov. 1955 at the Naval Base, Cartagena, Colombia.

COASTGUARD VESSELS

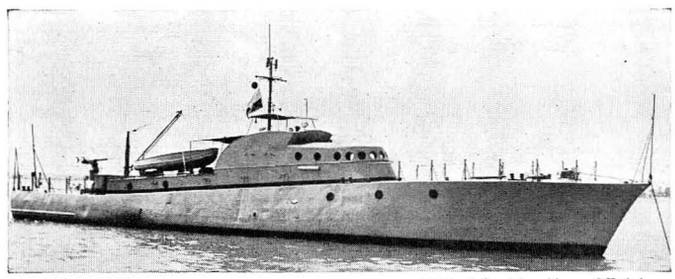


GENERAL VASQUES COBO — 1957, *Official*

	GENERAL RAFAEL REYES	GENERAL VASQUES COBO
Displacement:	146 tons	
Dimensions:	118 (*pp.*), 124⅔ (*o.a.*) × 23 × 5 feet	
Guns:	1—40 mm.	
Machinery:	2 Maybach diesels. B.H.P.: 2,400 = 18 kts. (20 kts. on trials)	
Oil fuel:	15 tons	
Radius:	1,000 miles	
Complement:	20	

Notes

Built by Lürssen Werft, Vegesack, Germany. Launched on 10 Nov. 1955, and 27 Sept., 1955 respectively. Delivered in May 1956.



ESPARTANA — 1957, *Colombian Navy, Official*

ESPARTANA

Displacement:	50 tons
Dimensions:	90 (*w.l.*), 96 (*o.a.*) × 13 × 4 feet
Guns:	1—20 mm. AA.
Machinery:	2 Diesels. B.H.P: 300 = 13·5 kts.
Oil fuel:	6 tons
Complement:	11

Notes

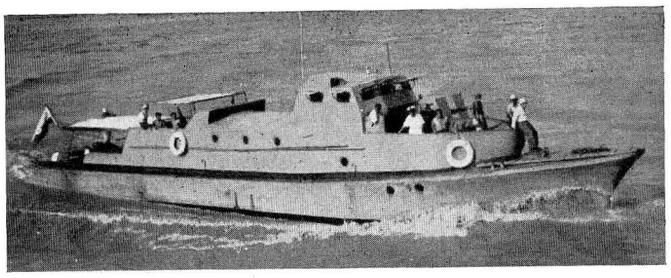
Constructed by the Engineer of the Naval Dockyard at Cartagena. Launched on 22 June 1950.

Displacement:	25 tons
Dimensions:	63 × 11 × 3½ feet
Machinery:	Diesels. B.H.P.: 115 = 10 kts.
[illegible]	3 tons

Notes

Built at Cartagena. Launched in 1947. Used as buoy and lighthouse inspection boat. Named after the first head of Colombian Naval Academy, Lieutenant-Commander Ralph Douglas Binney, R.N.

PATROL MOTOR LAUNCHES

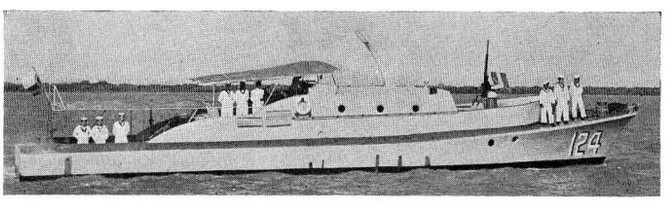


ALBERTO RESTREPO — *Added* 1957, *Official*

ALBERTO RESTREPO (1 Oct. 1952) **HUMBERTO CORTES** (26 Nov. 1952)
CARLOS GALINDO (1954) **JUAN LUCIO** (2 May 1953)
GUARDIAMARINA SABALZA **TENIENTE ASMISSEN**

Displacement:	35 tons
Dimensions:	76¾ (*pp.*), 81¾ (*o.a.*) × 12 × 2¾ feet
Guns:	1—20 mm. AA., 4 M.G.
Machinery:	2 G.M. diesels. B.H.P.: 260=13 kts.
Complement:	13

Notes
Built at Cartagena Naval Dockyard in 1952-55. Launch dates after the names above.



FRITZ HAGALE — 1956, *Colombian Navy, Official*

ALFONSO VARGAS (3 July 1952) **FRITZ HAGALE** (19 July 1952)

Displacement:	33 tons
Dimensions:	72 (*pp.*), 76 (*o.a.*) × 12 × 2¾ feet
Guns:	1—20 mm. AA., 4 M.G.
Machinery:	2 G.M. diesels. B.H.P.: 260=13 kts.
Fuel:	3½ tons
Complement:	10

Notes
Built at Cartagena naval base. Designed for operations on rivers. Named after naval officers. Launch dates after the names above.

DILIGENTE **INDEPENDIENTE** **TRIUNFANTE** **VENGADORA**
LA COLOMBIANA **TORMENTOSA** **VALEROSA** **VOLADORA**

Notes
Launched at the Naval Base, Cartagena, in 1942-54. The boats vary in detail

TRANSPORTS

ALBERTO GOMEZ (1954) **MARIO SERPA** (1953)
HERNANDO GUTIERREZ (1953)

Displacement:	70 tons
Dimensions:	82 × 18 × 2¾ feet
Machinery:	2 G.M. diesels. B.H.P.: 260=9 kts.
Oil fuel:	4 tons
Complement:	10 (berths for 56 troops)

Notes
Built at Cartagena in 1953-54. Named after Army officers. Photograph of *Alberto Gomez* in the 1954-55 to 1957-58 editions. Launch dates after names above.

CIUDAD DE QUIBDO

Displacement:	633 tons
Dimensions:	165 × 23¾ feet
Machinery:	1 Mai diesel. B.H.P.: 390=11 kts.
Fuel:	32 tons
Complement:	12

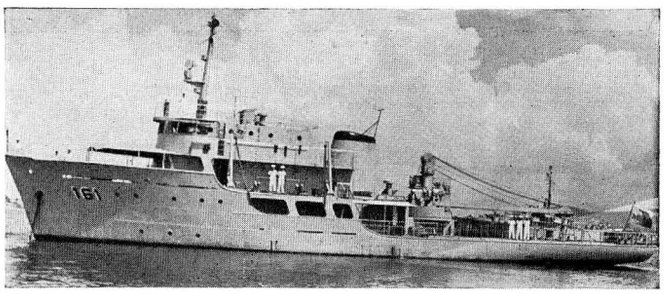
Notes
Built by Gebr. Sander Delfzijl, in the Netherlands. Photograph in the 1957-58 edition.

CIUDAD DE PEREIRA

Displacement:	633 tons
Dimensions:	163 × 33 × 10 feet
Machinery:	Diesels. B.H.P.: 600=10 kts.
Complement:	20

Notes
Light naval transport. Former U.S. Army freight ship FS-139. Photograph in the 1957-58 edition.

TENDER



GORGONA — 1956, *Colombian Navy, Official*

GORGONA

Displacement:	560 tons
Dimensions:	135 × 29½ × 9½ feet
Machinery:	2 Nohab diesels. B.H.P.: 910=13½ kts.

Notes
Built by Astillero Lidingoverken. Launched in May 1954. Pennant No. 161.

HOSPITAL SHIP

JAMARY

Dimensions:	146 × 25½ × 8 feet
Complement:	43

Notes
Small tender equipped as a naval hospital ship with beds for 80 patients.

OILERS

SANCHO JIMENO

Displacement:	1,200 tons *light* (6,000 tons full load)
Dimensions:	325 × 48 × 19 feet
Machinery:	1 Enterprise engine. B.H.P.: 1,400=11 kts.
Complement:	35

Notes
Launched in 1943. Purchased in 1952. Pennant No. 63.

BLAS DE LEZO (ex-U.S.S. *Kalamazoo*, *AOG* 30)

Displacement:	700 tons (Cargo capacity: 1,228 tons)
Dimensions:	212½ (*w.l.*), 220½ (*o.a.*) × 37 × 12¾ feet
Guns:	1—3 inch aft, on poop, 2—20 mm., 4 M.G.
Machinery:	Diesel. B.H.P.: 800=9·5 kts.
Oil fuel:	60 tons
Complement:	67

Notes
Built by the East Coast S.Y., U.S.A. Launched on 30 Aug. 1944. Pennant No. 62. Photograph in the 1957-58 edition.

CABIMAS

Notes
This oiler has been retired from service and is used as a receiving ship at Cartagena.

TUGS

CÁNDIDO LEGUIZAMO **CÁPITAN JULIO PATINO**
CÁPITAN HERNANDO BOCANEGRA **CÁPITAN RIGOBERTO GIRALDO**
CÁPITAN ALVARO RUIZ **CÁPITAN VLADIMIR VALEK**
CÁPITAN CASTRO **TENIENTE LUIS BERNAL**

Displacement:	50 tons
Dimensions:	63 × 14 × 2½ feet
Machinery:	2 G.M. diesels. B.H.P.: 260=10 kts.

CORONEL MORA ANGUEYRA

Displacement:	20 tons
Machinery:	Diesel. B.H.P.: 84=10 kts.

Note
Launched in 1945.

ANDAGOYA

Displacement:	100 tons
Machinery:	Caterpillar diesel. B.H.P.: 400=10 kts.

Notes
Launched in 1928. Re-engined in 1955. Pennant No. 71. Photograph in 1957-58 edition.

ABDIA MENDEZ

Displacement:	39 tons
Dimensions:	52½ × 11 × 4 feet
Machinery:	Caterpillar diesel. B.H.P.: 80=8 kts.

Note
Built in Germany in 1924.

MAYOR ERNESTO ROJAS **TENIENTE MIGUEL SILVA**

Dimensions:	73½ × 17½ feet
Machinery:	2 diesels. B.H.P.: 260=9 kts.
Radius:	2,200 miles

Notes
River tugs. Built by Union Industrial (Unial) of Barranquila, Nos. 89 and 90 respectively.

CUBA

Administration

Commander-in-Chief of the Navy:
Commander R. Castiñeiras.

Personnel

1960: 380 officers, 220 warrant officers, 5,000 men

Naval Establishments

Naval Academy: At Mariel, for training officers.
Naval School: At Morro Castle, Havana, for training enlisted personnel.

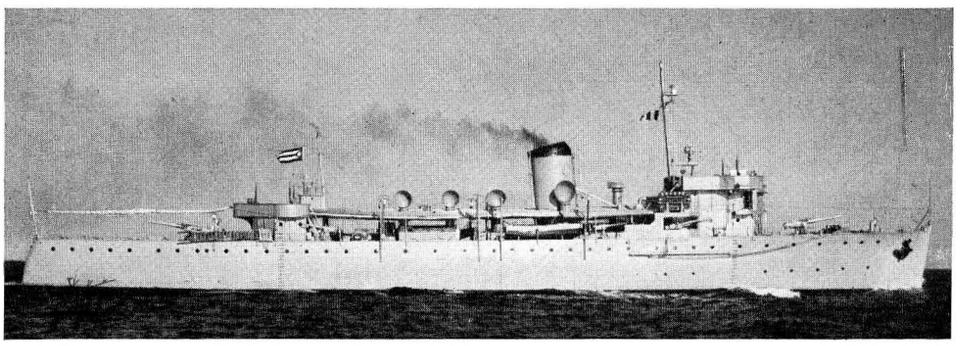
FRIGATES (*Fragatas*)

1 Rated as Cruiser (*Crucero*)

CUBA

Builders:	Cramp, Philadelphia
Launched:	10 Aug., 1911
Displacement:	2,055 tons
Dimensions:	260 (*pp.*) × 39 × 14 feet
Guns:	2—4 inch, 2—3 inch, 4—57 mm., 5—20 mm. AA., 2 D.C.T.
Machinery:	Triple expansion. I.H.P.: 6,000=14 kts. (officially revised figure)
Boilers:	2 Foster Wheeler 3-drum type.

Notes
Reconstructed in 1936-37. Converted from coal to oil burning. Completed further general reconstruction and modernisation in 1956, when hull and machinery were overhauled, new bridge rear constructed, tripod mast suppressed and replaced by a pole mast, radar equipment installed, funnel cap altered, height of masts reduced and four 57 mm. and five 20 mm. AA. guns mounted.



CUBA — 1957, *Official*

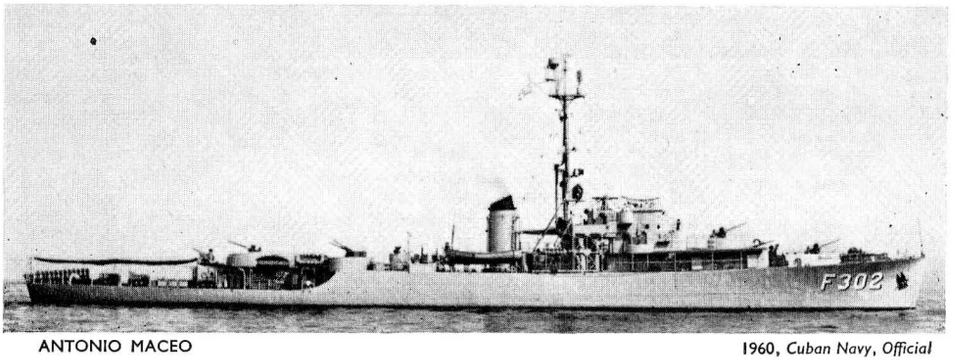
3 Ex-U.S. PF Type

ANTONIO MACEO (ex-*Peoria*, PF 67)
JOSE MARTI (ex-*Eugene*, PF 40)
MAXIMO GOMEZ (ex-*Grand Island*, PF 14)

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13⅜ feet
Guns:	3—3 inch d.p., 4—40 mm. AA., 6—20 mm. AA. (except *Maximo Góméz*, 3—3 inch d.p., 4—40 mm. AA. (9—20 mm. AA.)
A/S weapons:	Hedgehog, D.C.T. and racks
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=18 kts.
Boilers:	2, of 3-drum type
Complement:	135 (*José Marti*)

General Notes
Acquired from U.S.N. in 1947. *José Marti* is fitted as flagship. All completed a refit in 1956 at Key West Naval Base, when new anti-submarine armament and equipment were installed.

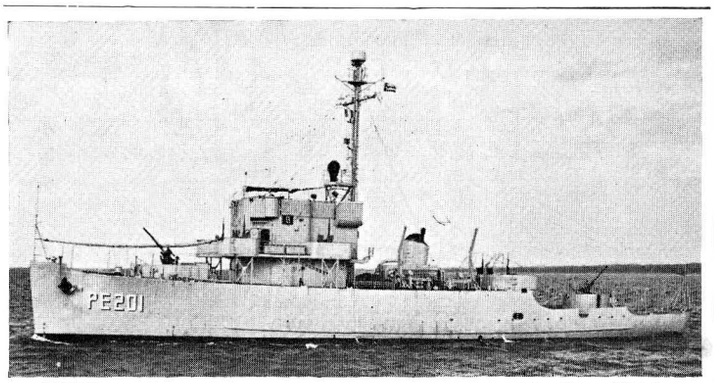
Photograph Notes
Photographs of *José Marti* and *Maximo Góméz* appear in the 1954-55 to 1959-60 editions.



ANTONIO MACEO — 1960, *Cuban Navy, Official*

Pennant No.	*Name*	*Builders*	*Name*	*Laid down*	*Launched*	*Completed*
F 302	*Antonio Maceo*	Leathem D. Smith, S.B. Co. Wis.	*Antonia Maceo*	4 June 1943	2 Oct. 1943	15 Oct. 1944
F 301	*José Marti*	Consolidated Steel, San Pedro	*José Marti*	12 June 1943	6 July 1943	15 Jan. 1944
F 303	*Máximo Góméz*	Kaiser Cargo Inc., Richmond, Cal.	*Máximo Góméz*	27 Nov. 1943	19 Feb. 1944	27 May 1944

PATROL ESCORTS (*Buques de Patrulla y Escolta*)



CARIBE — *Cuban Navy, Official*

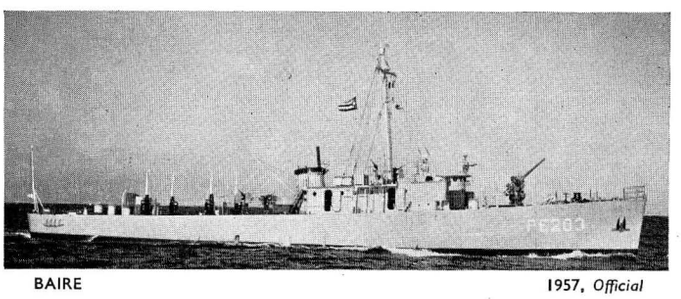
2 Ex-U.S. PCE Type Escort Patrol Vessels

	CARIBE (ex-*U.S.S. PCE* 872)	**SIBONEY** (ex-*U.S.S. PCE* 893)
Name:	*Caribe*	*Siboney*
Pennant No:	PE 201	PE 302
Builders:	Albina Eng. & Mach. Works, Portland, Oreg.	Willamette Iron & Steel Corp., Portland, Oreg.
Laid down	30 Jan. 1943	27 Oct. 1942
Launched:	24 Mar. 1943	8 May 1943
Completed:	29 Nov. 1943	25 July 1944

Displacement:	640 tons *standard* (903 tons *full load*)
Dimsenions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9½ feet.
Guns:	1—3 inch d.p., 3—40 mm. AA., 4—20 mm. AA.
A/S weapons:	Hedgehog, D.C.T. and racks
Machinery:	12 cylinder Marine Diesel. 2 shafts. B.H.P.: 1,800=14 kts.
Complement:	99

Notes
Built in U.S.A. Former United States escort patrol vessels. Box deck-house amidships was removed from *Caribe* in 1953. Both completed a refit in 1956 at Key West Naval Base, when new anti-submarine armament and equipment were installed.

PATROL VESSEL



BAIRE — 1957, *Official*

1 Ex-U.S. P.C. Type Submarine Chaser

BAIRE (ex-*Tribesman*, ex-*PC* 790)

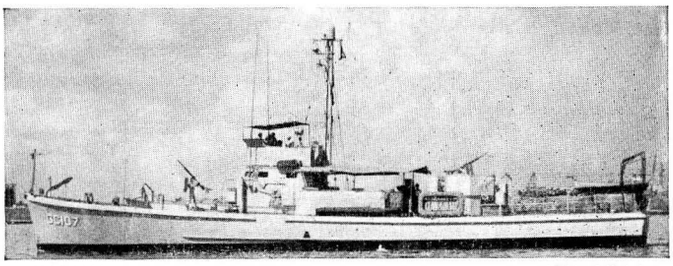
Displacement:	295 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173 (*o.a.*) × 23 × 7½ (*mean*), 10¾ (*max.*)
Guns:	1—3 inch d.p., 50 cal., 1—40 mm. AA., 2—20 mm. AA.
Machinery:	2 Hamilton diesels. 2 shafts. B.H.P.: 1,600=22 kts.
Complement:	66

Notes
Former United States submarine chaser. Pennant No. PE 203. Built by Commercial Iron Works, Portland, Oregon. Laid down on 6 Feb. 1943. Launched on 22 Mar. 1943. Completed on 23 Mar. 1944. Commissioned in 1944. Formerly of Honduran registry prior to purchase by Cuba in 1956. Acquired by the Cuban Navy and re-armed for employment in the coastal patrol.

Disposal
The old sloop *Patria* has been removed from the effective list.

New Construction
It is officially stated that plans have been made to acquire twelve new gas turbine-diesel motor coast guard cutters, two new lighthouse tenders, and 15 auxiliary patrol craft of the SV 1 and SV 7 types.

COAST GUARD CUTTERS (*Guardacostas*)

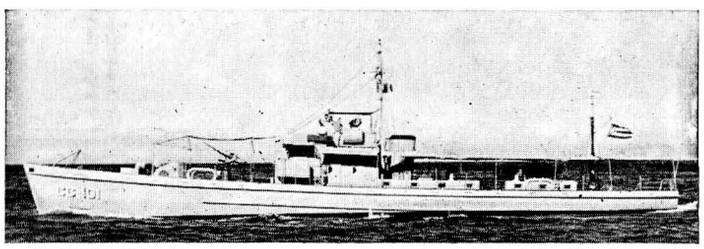


HABANA 1954, *Official*

HABANA *GC* 107 (ex-*SC* 1291) **ORIENTE** *GC* 104 (ex-SC 1000)
LAS VILLAS *GC* 106 (ex-*SC* 1290) **PINAR DEL RIO** *GC* 108 (ex-*SC* 1301)

Displacement:	95 tons
Dimensions:	107½ (*w.l.*), 111 (*o.a.*) × 17 × 6½ feet
Guns:	2—20 mm. AA.
Machinery:	G.M. Diesels. 2 shafts. B.H.P.: 1,000=15 kts.

Notes
Built in U.S.A. by Dingle Boat Works (*Oriente*), W. A. Robinson, Inc., Ipswich, Mass (*Havana* and *Las Villas*), and Perkins & Vaughan, Inc., Wickford, R.I. (*Pinar del Rio*). *Camaguey* GC 105, has been removed from the effective list, it was officially stated in 1960.

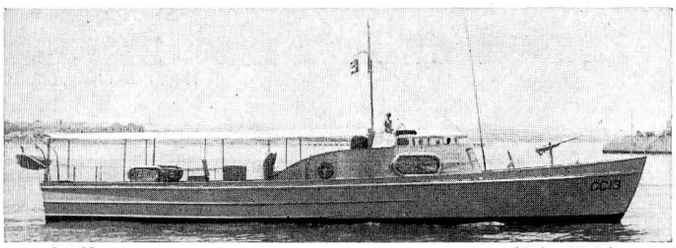


LEONCIO PRADO 1960, *Cuban Navy, Official*

LEONCIO PRADO *GC* 101

Displacement:	80 tons
Dimensions:	110 × [illegible] × 6½ feet
Guns:	1—20 mm. AA.
Machinery:	2 sets 8-cycle, 2-stroke Diesels. B.H.P.: 1,000=15 kts.
Oil:	2,232 gallons for a cruising radius of 16,000 miles

Notes
Built at Havana. Launched in 1946. Wooden hulled.



GC 13 1951, *Official*

GC 11 **GC 13** **GC 14**

Displacement:	45 tons
Dimensions:	83 × 16 × 4½ feet
Guns:	1—20 mm. AA. Depth charges
Machinery:	2 Sterling Viking petrol motors. H.P.: 1,200=18 kts.
Complement:	12

Notes
Former *CS* of same numbers. Built in U.S.A. Launched in 1942-43. Ex-United States Coast Guard Cutters 83351, 83385, 83395, respectively. Wood. Received from U.S. Navy in March 1943. Rated as *Guardacostas*, 83 ft. GC 12 and GC 31 have been removed from the effective list.

GC 32 **GC 33** **GC 34**

Displacement:	45 tons
Dimensions:	83 × 16 × 4½ feet
Guns:	1—20 mm. AA.
Machinery:	2 Superior Diesel motors. B.H.P.: 460=12 kts.
Complement:	12

Notes
Built in U.S.A. Launched in 1942-43. Ex-United States Coast Guard Cutters 56191, 56190, 56192. Wood. Photograph of GC 32 in the 1955-56 to 1959-60 editions. GC 31 has been removed from the effective list.

AUXILIARY COAST GUARD CUTTERS

DONATIVO *GC* 102 (ex-*Capitan Fernandez Quevedo*)

Displacement:	130 tons
Dimensions:	101 × 18 × 7 feet
Machinery:	2 sets Diesels. B.H.P. 360=12 kts.

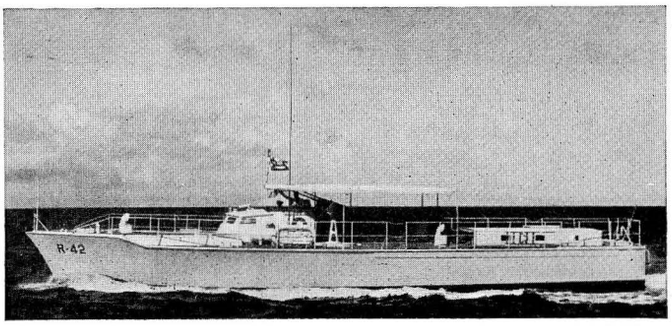
Notes
Built at Havana. Launched in 1932. Photograph in the 1947-48 to 1959-60 editions.

MATANZAS *GC* 103

Displacement:	80 tons
Dimensions:	100 × 18 × 6 feet
Guns:	1—1 pdr.
Machinery:	2 Fairbanks Morse Diesels. B.H.P.: 180=12 kts.

Notes
Wooden hulled. Built at Havana. Launched in 1912. Photograph in the 1947-48 to 1959-60 editions. Both of the above ships are rated as *Guardacostas Auxiliaries*.

MOTOR LAUNCHES (EX-M.T.B.s)



R 42 1955 *Official*

R 41 (ex-*PT* 715) **R 42** (ex-*PT* 716) **R 43** (ex-U.S. *PT*)

Displacement:	35 tons
Dimensions:	71 × 19½ × 5 feet
Guns:	2 M.G.
Machinery:	3 Packard petrol engines. 3 shafts. B.H.P.: 3,600=40 kts. (*max.*)

Notes
Former American motor torpedo boats of the PT type. Built in the U.S.A. by Annapolis Yacht Yard, Inc., Annapolis, Md. Launched on 9 July 1945 (*R* 41) and 17 July 1945 (*R* 42). Sunk during a hurricane, 5 Oct. 1948, but were subsequently salvaged and are in service as sea-air rescue craft. R 43 is a different type from R 41 and R 42. She is undergoing general repairs. All rated as *Buques-Auxiliares, Ex-Torpederos*.

AUXILIARY PATROL CRAFT

SV 7 **SV 8** **SV 9** **SV 10** **SV 12** **SV 14**

Dimensions:	Length 40 feet
Guns:	1—50 cal. M.G.
Machinery:	2 G.M. diesels. Speed 25 kts.

Notes
Later boats of the SV type assigned to naval stations for coastal vigilance, to deal with contraband, and for auxiliary services, rescue and navigation. Equipped with radar.

SV 1 **SV 2** **SV 3** **SV 4** **SV 5** **SV 6**

Displacement:	6·15 tons
Dimensions:	32 × 10 × 2¾ feet
Machinery:	2 Chrysler Crown. B.H.P.: 230=18 kts.

Notes
Auxiliary patrol boats for port vigilance, launched in 1953. Photograph of *SV* 6 in 1957-58 edition.
Seven YP type patrol craft were delivered to Cuba, having been built at Annapolis, Maryland, U.S.A. during 1956. Three more were delivered later.

LIGHTHOUSE TENDERS

ENRIQUE COLLAZO (ex-*Joaquin Godoy*)

Displacement:	815 tons
Dimensions:	211 × 34 × 9 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 672=8 kts.

Notes
Built at Paisley, Scotland. Launched in 1906. Acquired in 1950 from Cuban mercantile marine. Rated as *Buque de Servicio de Faros*. Photograph in the 1953-54 to 1957-58 editions.

BERTHA

Displacement:	98 tons
Dimensions:	104 × 19 × 11 feet
Machinery:	2 Gray Marine Diesels. B.H.P.: 450=10 kts.

Notes
Launched in 1944. Pennant No. SF 10. Photograph in the 1957-58 edition.
Recent Disposal
The very old surveying vessel *Yara* (ex-*Ruperto Rodriguez*) has been removed from the effective list.

AUXILIARY VESSELS (*Buques-Auxiliares*)

GRANMA

Notes
Yacht which landed in Cuba on 2 Dec. 1956 with Dr. Fidel Castro and the men who began the liberation war. Historical vessel incorporated into the Navy as an auxiliary vessel with the Pennant No. A 11.
The former Presidential Yacht 10 *de Marzo* (ex-*Wakitty*) has been removed from the effective list.

A1 **A2** **A3**

Displacement:	60 tons
Dimensions:	74 × 15 × 5 feet
Guns:	1 M.G.
Machinery:	2 diesel engines

Notes
Formerly yachts. Photograph of A3 appears in the 1954-55 to 1957-58 editions.

RESCUE AND SALVAGE VESSEL
(*Buque de Rescate y Salvamento*)

10 DE OCTUBRE (ex-*ATR* 4)

Displacement:	852 tons *standard* (1,315 tons *full load*)
Dimensions:	155 (*w.l.*), 165½ (*o.a.*) × 33⅓ × 16 feet
Guns:	Removed
Machinery:	Triple expansion. I.H.P.: 1,600=12 kts.
Boilers:	2 Babcock & Wilcox D-type. Oil burning

Notes
Former American ocean rescue tugs. Built in U.S.A. Launched in 1943. Largely of wooden construction. Pennant No. RS 210. Rated as *Buque de Rescate y Salvamento*. Sister ship 20 *de Mayo* (photograph in the 1954-55 to 1959-60 editions) has been removed from the effective list.

DENMARK

Administration

Commander-in-Chief:
Vice-Admiral H. A. Nyholm, M.B.E., R.D.N.

Naval Attaché, London: Lt. Colonel J. B. Danielsen.

Navy Estimates

1958-59: Kr.161,500,000 1960-61: Kr.172,100,000
1959-60: Kr.170,100,000

Personnel

October 1960: 7,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
787 vessels of 2,204,283 tons *gross*

FRIGATES

2 New Construction DE Type

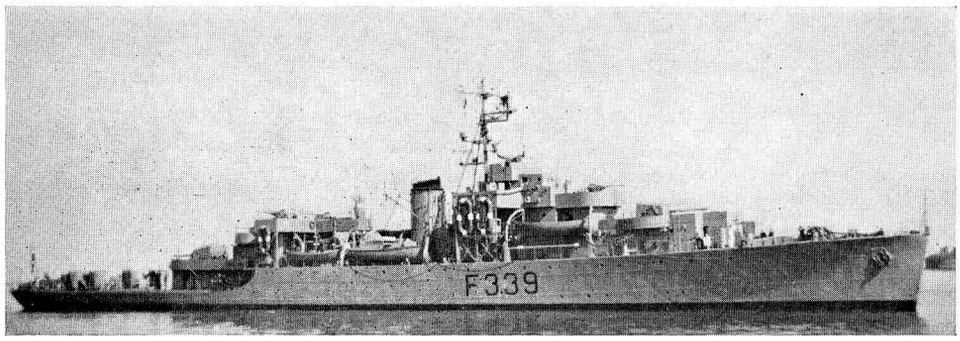
Displacement: *circa* 1,800 tons (official figure)

Notes
Fast frigates or destroyer escorts to be laid down in 1962.

1 Ex-British "River" Class

NIELS EBBESEN (ex-H.M.S. *Annan*)

Pennant No.	*F 339*
Builders:	Hall, Russell & Co. Ltd.
Laid down:	10 June 1943
Launched:	29 Dec. 1943
Completed:	29 June 1944
Displacement:	1,398 tons *standard* (2,134 tons *full load*)
Dimensions:	301½ × 36½ × 12 feet
Guns:	2—5·1 inch, 2—57 mm. (saluting), 4—40 mm. AA., 2—20 mm. AA. Madsen
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Complement:	140



NIELS EBBESEN *Added* 1960

Notes
"River" Class. Purchased from Great Britain. Employed as sea-going training ship and for fishery protection.

Recent Disposal
Sister ship *Holger Danske* was scrapped in 1959.

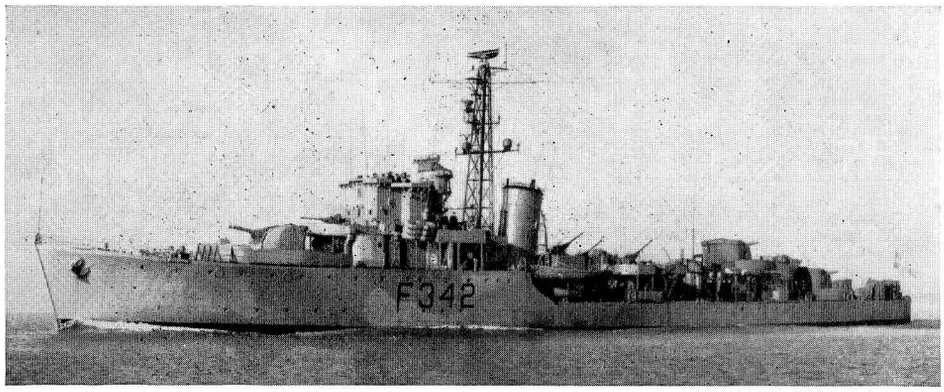
3 Ex-British "Hunt" Class

ESBERN SNARE (ex-H.M.S. *Blackmore*)
ROLF KRAKE (ex-H.M.S. *Calpe*)
VALDEMAR SEJR (ex-H.M.S. *Exmoor*)

Displacement:	1,050 tons *standard* (1,610 tons *full load*)
Dimensions:	280 (*o.a.*) × 31½ × 14 (*max.*) feet
Guns:	6—4 inch AA., 4—40 mm. AA.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=25 kts.
Boilers:	2 of 3-drum type
Oil fuel:	280 tons
Complement:	150

Name	*Laid down*	*Launched*	*Completed*
Esbern Snare	10 Feb. 1941	2 Dec. 1941	14 Apr. 1942
Rolf Krake	12 June 1940	28 Apr. 1941	11 Dec. 1941
Valdemar Sejr	7 June 1940	12 Mar. 1941	18 Oct. 1941

Name	*Pennant No.*	*Builders*
Esbern Snare	F 341	Alex. Stephen & Sons, Ltd., Glasgow
Rolf Krake	F 342	Swan, Hunter & Wigham Richardson
Valdemar Sejr	F 343	Swan, Hunter & Wigham Richardson



ROLF KRAKE *Added* 1958, *Wright & Logan*

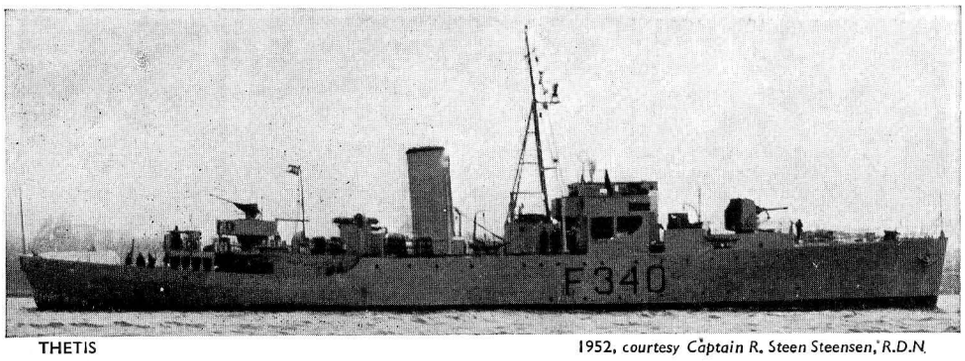
Notes
British "Hunt" class, type II. Lent by Great Britain in 1953 for 4 years and subsequently extended for a further 4 years. Reconstructed in 1953-54.

1 Ex-British "Flower" Class

THETIS (ex-H.M.S. *Geranium*)

Builders:	Wm. Simons & Co. Ltd.
Laid down:	21 Sep. 1939
Launched:	23 Apr. 1940
Completed:	24 June 1940
Displacement:	1,000 tons *standard* (1,313 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet (*max.*)
Guns:	1—3 inch, 1—40 mm. AA., 4—20 mm. AA. Madsen
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 S.E.
Oil fuel:	230 tons
Complement:	85

Notes
Former British corvette (later reclassified as frigate) of "Flower" Class. Purchased from Great Britain. Operates in North Sea and off Faroes. Rebuilt and modernised in 1951-52 when new boilers were installed and the funnel was stepped a little more aft. Pennant No. F 340.



THETIS 1952, *courtesy Captain R. Steen Steensen, R.D.N.*

Gunnery Notes
The 4 inch AA. gun formerly carried was replaced by a 3 inch gun in 1959.

CORVETTES

4 "Triton" Class

BELLONA DIANA FLORA TRITON

Displacement:	760 tons *standard* (1,000 tons *full load*)
Dimensions:	249⅓ (*o.a.*) × 31½ × 9 feet
Guns:	2—3 inch, 2—40 mm. AA.
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 4,400=21 kts.
Complement:	110

Name	*Builders*
Bellona	Naval Meccanicia, Castellammare
Diana	Cantiere del Tirreno, Riva Trigoso
Flora	Cantiere del Tirreno, Riva Trigoso
Triton	Cantiere Navali di Taranto

Pennant No.	*Name*	*Launched*	*Transferred*
FC 344	*Bellona*	9 Jan. 1955	31 Jan. 1957
FC 345	*Diana*	19 Dec. 1954	30 July 1955
FC 346	*Flora*	25 June 1955	28 Aug. 1956
FC 347	*Triton*	12 Sep. 1954	10 Aug. 1955



TRITON 1956, *courtesy Dott. Ing. Luigi Accorsi*

Notes
All four vessels were built under United States MDAP in Italy for the Danish Navy. Officially classified as corvettes in 1954.

SUBMARINES

4 " Delfinen " Class

DELFINEN **SPÆKHUGGEREN** **TUMLEREN**

Displacement:	550 tons *standard*, 600 tons *surface*
Dimensions:	Length 177 feet
Tubes:	4—21 inch
Machinery:	2 Burmeister & Wain diesels. B.H.P. 1,200=13 knots *surface*. Electric motors=12 kts. *submerged*
Radius:	4,000 miles at 8½ kts.

Notes

These new submarines were built in the Royal Dockyard, Copenhagen. *Delfinen* (Dolphin) was the first submarine built in Denmark for 17 years. Engined with diesels of a new type. Equipped with Schnorkel. A fourth ship of the class, as yet unnamed, is scheduled to be launched in 1962.

Pennant No.	*Name*	*Laid down*	*Launched*
S 326	*Delfinen*	1 July 1954	4 May 1956
S 327	*Spaekhuggeren*	1 Dec. 1954	20 Feb. 1957
S 328	*Tumleren*	22 May 1956	June 1958
S 329		1960	



DELFINEN — 1960, *Royal Danish Navy, Official*

Recent Disposals

The submarines *Saelen* (ex-U3, ex-*Morse*, ex-H.M.S. *Vortex*) and *Springeren* (ex-U1, ex-*Dzik*, ex-P52) were handed back to the Royal Navy on 16 Jan. 1958 and 19 Nov. 1957, respectively. The third ship of the class, the *Storen* (ex-H.M.S. *Vulpine*) was returned to Great Britain in 1958.

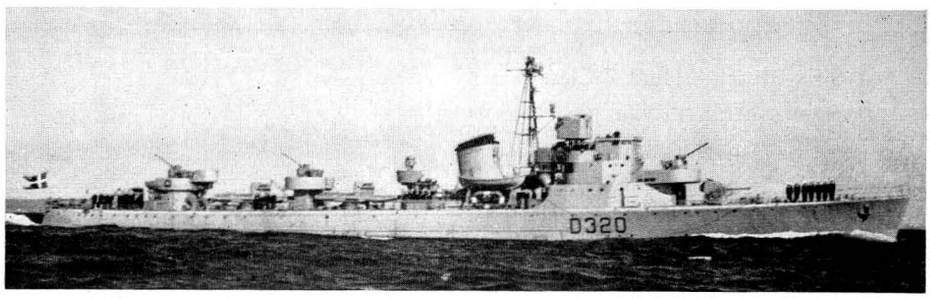
PATROL VESSELS (*ex-Coastal Destroyers*)

2 " Huitfeldt " Class

HUITFELDT (ex-*Nymfen*) **WILLEMOES** (ex-*Najaden*)

Name:	*Huitfeldt*	*Willemoes*
Pennant Nos.:	*P* 520	*P* 521
Builders:	Royal Dockyard, Copenhagen	
Laid down:	3 July 1942	3 July 1942
Launched:	22 June 1943	17 Mar. 1943
Completed:	31 July 1947	30 June 1947

Displacement:	782 tons *standard* (890 tons *full load*)
Dimensions:	283 (*o.a.*), 279 (*pp.*)×27⅓×11½ feet
Guns:	2—4·1 inch, 3—40 mm. AA., 6—20 mm. Madsen
Tubes:	6—21 inch, 2 D.C.T.
Mines:	60
Machinery:	Geared turbines. 2 shafts. S.H.P.: 21,000=35 kts.
Oil fuel:	100 tons
Complement:	92

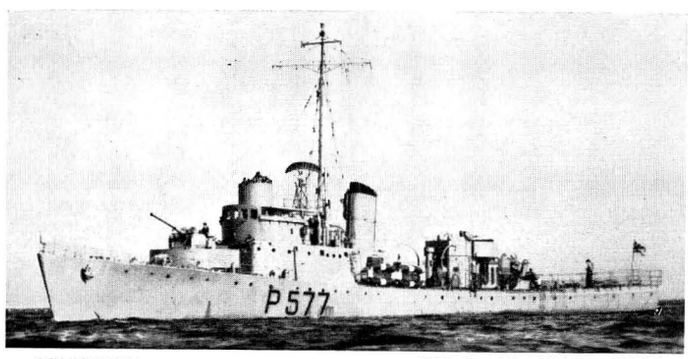


HUITFELDT — *Added* 1959, *Royal Danish Navy, Official*

Notes

Originally known as Torpedo Boats. Reclassified as Coastal Destroyers in 1951 and again reclassified as Patrol Vessels, with P pennant numbers, in 1958. Named after Danish naval officers.

PATROL VESSELS (*ex-Minesweepers*)



SØHUNDEN — 1958, *Royal Danish Navy, Official*

2 " Sohesten " Class

SØHUNDEN **SØRIDDEREN**

Displacement:	274 tons *standard* (315 tons *full load*)
Dimensions:	169 (*pp.*), 176½ (*o.a.*)×20¾×6½ feet
Guns:	2—40 mm. AA., 4—20 mm. AA., Bofors. 2 D.C.T.
Machinery:	Geared turbine. 1 shaft. S.H.P.: 2,200=19 kts.
Boiler:	1 Thornycroft 3-drum type
Oil fuel:	30 tons
Complement:	48

Notes

Both built at Royal Dockyard, Copenhagen. Former minesweepers equipped for minelaying. Reconstructed with radar and firing director, reclassified as patrol vessels and given new P numbers instead of M pennant numbers in 1958. *Söridderen* means Sea Knight; *Söhunden* means Seadog.

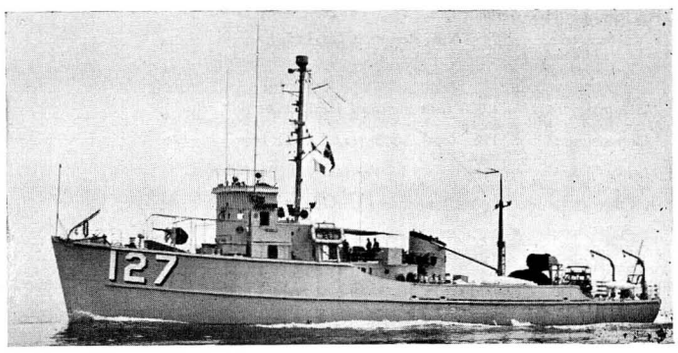
Pennant No.	*Name*	*Launched*
P577 (ex-*M* 542)	*Söhunden*	16 May 1942
P579 (ex-*M* 544)	*Söridderen*	11 Apr. 1942

Recent Disposals

The two sister ships of the " Söhesten " class, the *Söhesten* (Seahorse) and *Sölöven* (Sealion) were scrapped in 1959.

All the six patrol vessels (ex-torpedo boats) of the " Krieger " class, the *Bille*, *Buhl*, *Hammer*, *Holm*, *Krabbe* and *Krieger*, were scrapped in 1959.

COASTAL MINESWEEPERS



AARØSUND — **1956**, *Wright & Logan*

8 " Aarösund " Class

AARØSUND M 571 (ex-*AMS* 127)
ALSSUND M 572 (ex-*AMS* 128)
EGERNSUND M 573 (ex-*AMS* 129)
GRØNSUND M 574 (ex-*MSC* 256)
GULDBORGSUND M 575 (ex-*MSC* 257)
OMØSUND M 576 (ex-*MSC* 221)
ULVSUND M 577 (ex-*MSC* 263)
VILSUND 578 (ex-*MSC* 264)

Displacement:	375 tons *standard* (405 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*)×27×8½ feet
Guns:	2—20 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200=15 kts.
Complement:	35

Notes

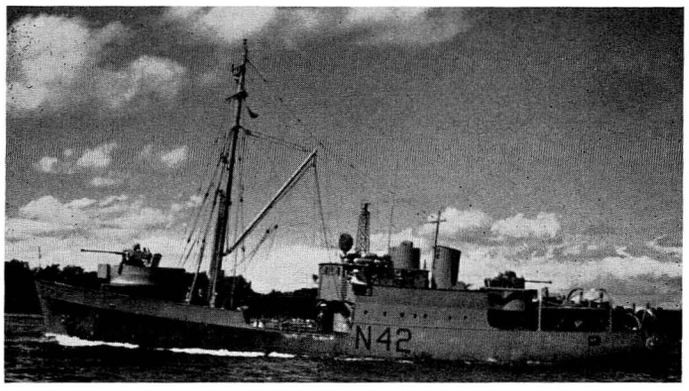
MSC (ex-AMS) 60 class NATO coastal minesweepers AMS 127-130 and four more all built in U.S.A. Completed in 1954-56. *Aarösund* was transferred on 24 Jan. 1955, *Alssund* on 5 Apr. 1955, *Egernsund* on 3 Aug. 1955, *Grönsund* on 21 Sep. 1956, *Guldborgsund* on 11 Nov. 1956, *Omösund* on 20 June 1956, *Ulvsund* on 20 Sep. 1956 and *Vilsund* on 15 Nov. 1956.

COASTAL MINELAYERS (*Minelaeggere*)

2 New Construction MMC Type

Displacement:	1,500 tons
Dimensions:	246 × 41 × 10 feet
Guns:	4—3 inch dual purpose
Machinery:	H.P.: 4,000 = 16 kts.

Notes
It is officially stated that two new minelayers will be laid down in 1961

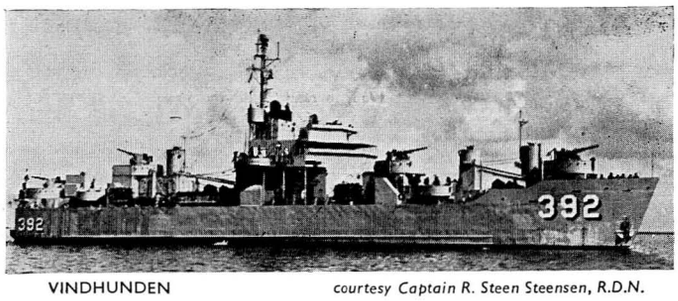


LANGELAND 1959, *courtesy Captain Aldo Fraccaroli*

LANGELAND

Displacement:	309·5 tons *standard*, 323 tons *full load*
Dimensions:	133½ (*o.a.*), 128½ (*pp.*) × 23⅜ × 7¼ feet
Guns:	2—40 mm., 2—20 mm. Madsen
Machinery:	Diesel. 2 shafts. B.H.P.: 385 = 11·6 kts.
Complement:	37

Notes
Built at the Royal Dockyard, Copenhagen. Launched on 17 May 1950. Pennant No. N 42.



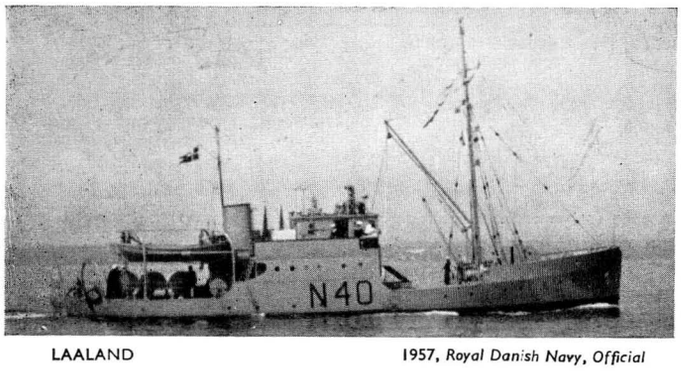
VINDHUNDEN *courtesy Captain R. Steen Steensen, R.D.N.*

2 "Beskytteren" Class

BESKYTTEREN (ex-U.S. *LSM* 390) **VINDHUNDEN** (ex-U.S. *LSM* 392)

Displacement:	743 tons *light*, 1,095 tons *full load*
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	8—40 mm. (twin), 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800 = 12 kts.
Complement:	60

Notes
Former United States LSM's reconstructed as minelayers in U.S.A. *Beskytteren* (Danish for "Protector") was launched on 12 Dec. 1944 by Charleston Navy Yard and transferred to the Royal Danish Navy at New York on 8 June 1954. Pennant Nos. N 60 and N 61, respectively.



LAALAND 1957, *Royal Danish Navy, Official*

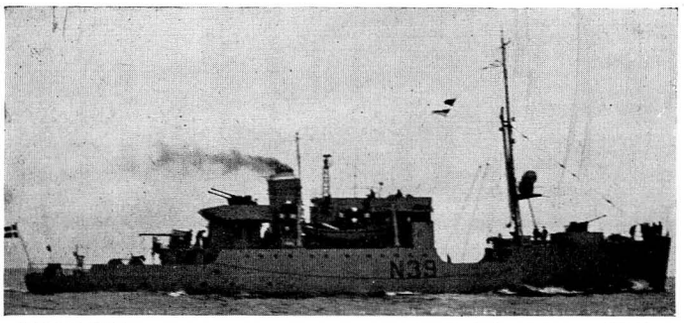
2 "Laaland" Class

LAALAND **LOUGEN**

Displacement:	240 tons
Dimensions:	105½ × 21¼ × 6½ feet
Guns:	2—20 mm. AA.
Machinery:	B. & W. Diesel. 1 shaft. B.H.P.: 350 = 10 kts.
Complement:	31

Notes
Built by Copenhagen Naval Yard. Both launched in 1941 and completed in 1946. Pennant Nos. N 40 and N 41, respectively.

Coastal Minelayers—*continued*



LINDORMEN *courtesy Captain R. Steen Steensen, R.D.N.*

LINDORMEN

Displacement:	604 tons *standard* (745 tons *full load*)
Dimensions:	175½ (*o.a.*), 167¼ (*p.p.*) × 29 × 8 feet
Guns:	2—40 mm. AA., 2 M.G.
Mines:	150
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,200 = 14 kts.
Boilers:	2 Thornycroft 3-drum type
Oil fuel:	35 tons
Complement:	66

Notes
Built at the Royal Dockyard, Copenhagen. Launched on 30 Mar. 1940. Scuttled in Copenhagen Harbour on 29 Aug. 1943, but was salved and refited with a new rig. The 3-inch gun formerly mounted, and one 40 mm. gun, were removed in 1959. Pennant No. N 39.

SEAWARD DEFENCE CRAFT

8 New Construction SDC Type

Displacement:	150 tons
Dimensions:	12½ × 22 × 6½ feet
Guns:	1—40 mm. AA.
A/S weapons:	Depth charges
Machinery:	Speed = 20 kts.

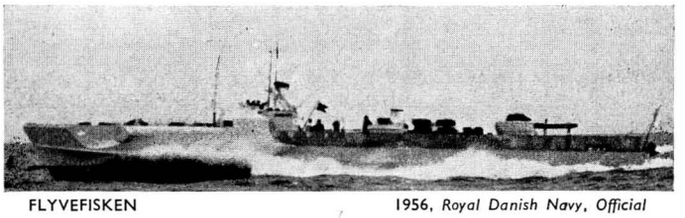
Notes
It is officially stated that these eight seaward defence craft are to be laid down in 1960-62.

MOTOR TORPEDO BOATS

6 New Construction FPB Type

Displacement:	115 tons
Guns:	1—40 mm. AA., 1—20 mm. AA.
Tubes:	4 Torpedoes

Notes
It is officially stated that six new fast patrol boats are to be laid down in 1960-61



FLYVEFISKEN 1956, *Royal Danish Navy, Official*

6 "Flyvefisken" Class

FLYVEFISKEN P 569 **HAVKATTEN** P 571 **MAKRELEN** P 573
HAJEN P 570 **LAXEN** P 572 **SVÆRDFISKEN** P 574

Displacement:	110 tons
Dimensions:	120 × 18 × 6 feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 Diesels. B.H.P.: 7,500 = 45 kts.
Complement:	23

Notes
Three built in Royal Dockyard, Copenhagen, three in Frederikssundvaerft. All units are named after fishes.



VIBEN 1960, *Royal Danish Navy, Official*

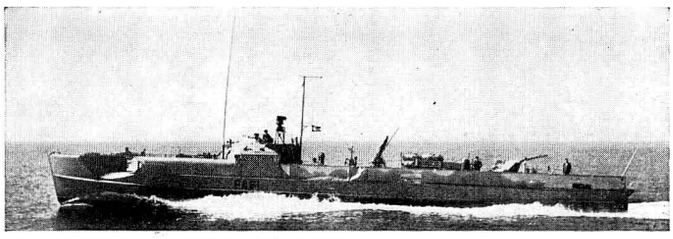
6 "Gribben" Class

GRIBBEN P 551 (ex-*T* 51, ex-*S* 316) **STORMFUGLEN** P 565 (ex-*Lyn*, ex-*S* 64)
HEJREN P 563 (ex-*Tross*, ex-*S* 117) **TRANEN** P 567 (ex-*Storm*, ex-*S* 85)
RAVNEN P 560 (ex-*T* 60, ex-*S* 97) **VIBEN** P 568 (ex-*S* 68)

Displacement:	99 tons
Dimensions:	115 × 17¾ × 6 feet
Guns:	1—40 mm., 3—20 mm. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz Diesels. B.H.P.: 6,000 = 36 kts.
Complement:	21

Notes
Ex-German Schnell-boote. *Hejren* built by Schlichting, Travemunde, others all built by Lürssen, Vegesack, except *Gribben*. *Hejren*, *Stormfuglen* and *Tranen* were transferred from the Royal Norwegian Navy in 1951. Now named after birds. *Haerfuglen*, *Isfuglen* and *Musvaagen* were scrapped in Oct. 1955. *Hogen* was sunk in collision on 4 Sep. 1957. *Havornen* and *Raagen* were scrapped in 1958.

Motor Torpedo Boats—*continued*



SKADEN. 1952, *courtesy, Captain R. Steen Steensen, R.D.N.*

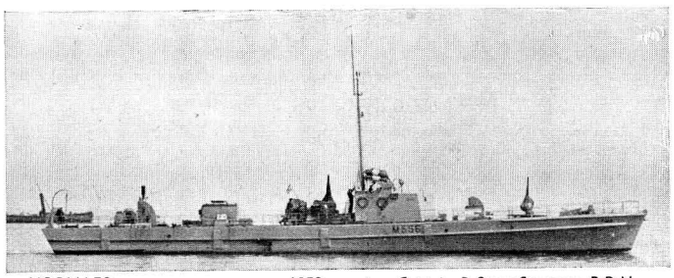
5 " Falken " Class

FALKEN P 562 (ex-*Blink*, ex-*S* 302) **JAGTFALKEN** P 557 (ex-*T* 57, ex-*S* 305)
GLENTEN P 551 (ex-*T* 51, ex-*S* 316) **SKADEN** P 561 (ex-*T* 61, ex-*S* 207)
LOMMEN P 564 (ex-*Kjekk*, ex-*S* 195)

Displacement:	100 tons
Dimensions:	115 (*pp.*), 121⅜ (*o.a.*) × 17 × 6 feet
Guns:	1—40 mm., 3—20 mm.
Tubes:	2—21 inch
Machinery:	3 supercharged diesels. B.H.P.: 7,500 = 38 kts.
Complement:	22

Notes
Ex-German. All built by Lürssen, Vegesack. All launched in 1939-44. *Falken* and *Lammen* were transferred from the Royal Norwegian Navy in 1951. *Taarnfalken* was scrapped in 1958

PATROL BOATS



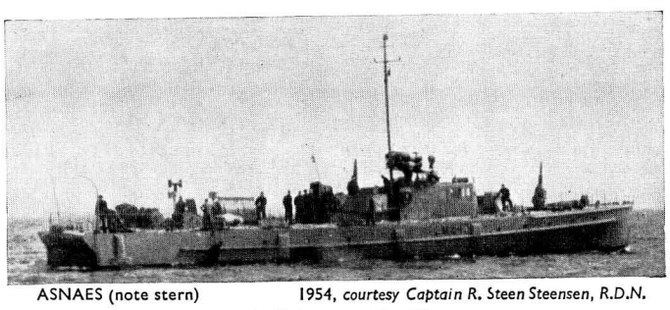
VORNAES 1953, *courtesy Captain R. Steen Steensen, R.D.N.*

2 " Stigsnaes " Class

STIGSNÆS P 545 (ex-*M* 554, ex-*MR* 230) **TRELLENÆS** P 546 (ex-*M* 555, ex-*MR* 236)

Displacement:	150 tons
Dimensions:	129½ × 18½ × 5½ feet
Guns:	2—20 mm. AA. Madsen
Machinery:	Diesel. B.H.P.: 2,800 = 23 kts.
Fuel:	14 tons
Complement:	21

Notes
Ex-German craft with wooden hulls. Built by Burmester, Burg. Both launched in 1943-44. MR 229 and MR 214 were scrapped in 1951. Former inshore minesweepers reclassified as patrol boats and given P instead of M pennant numbers in 1958. Sister ship *Varnaes* P 547 (ex-*M* 556, ex-*MR* 242) is scheduled to be scrapped in 1960.



ASNAES (note stern) 1954, *courtesy Captain R. Steen Steensen, R.D.N.*

4 " Asnaes " Class

ASNÆS P 541 (ex-*M* 547, ex-*MR* 154) **HELGENÆS** P 543 (ex-*M* 551, ex-*MR* 167)
EGENÆS P 542 (ex-*M* 550, ex-*MR* 157) **LYNÆS** P 544 (ex-*M* 552, ex-*MR* 168)

Displacement:	130 tons
Dimensions:	118 × 18 × 5½ feet
Guns:	1 or 2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 1,800 = 20 kts.
Oil fuel:	10 tons
Complement:	19

Notes
Ex-German craft with wooden hulls. Built by Burmester, Burg. All launched in 1940-43. MR 152, 173, were scrapped in 1951. *Rinjenaes*, M 553 was scrapped in June 1955. *Bognaes* and *Dyrnaes* were scrapped in 1958. Former inshore minesweepers reclassified as patrol boats and given P instead of M pennant numbers in 1958.

PATROL CRAFT (*Training*)

3 DMH Class

DMH 70 **DMH 71** **DMH 72**

Displacement:	76 tons
Dimensions:	65⅔ × 16½ × 8¼ feet
Guns:	1—20 mm. Oerlikon AA.
Machinery:	Alfa diesel (440 revs.). B.H.P.: 200 = 10 kts.
Complement:	12

Notes
Of wooden construction. Built at the Royal Dockyard, Copenhagen. Launched in 1957. Training ships for Naval Homeguard personnel. Fitted for minesweeping. DMH stands for Det Maritime Hjemmevaern (The Naval Homeguard). There are 23 Homeguard cutters in service in the Danish Navy as training ships, inshore patrol vessels and harbour control boats.

PATROL CRAFT (*Orlogskuttere*)

2 New Construction

Displacement:	175 tons
Dimensions:	88½ × 21⅔ × 9½ feet
Guns:	1—40 mm. AA.

Notes
These two patrol craft for service in Greenland waters were laid down on 15 Jan. 1960. They are of steel construction.

2 " Skarven " Class

SKARVEN **TEJSTEN**

Displacement:	130 tons
Dimensions:	82 × 20⅔ × 9⅝ feet
Guns:	1—37 mm.
Machinery:	Alfa Diesel. B.H.P.: 180
Complement:	9

Notes
Of wooden construction. Built by Lillevaerft, Korsor, and Holbaek Skibsbygger respectively. Launched 1951. For service in Greenland waters.

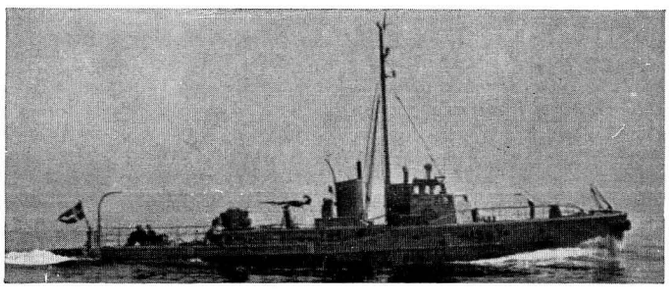
Recent Disposals
Of the other two patrol craft for service in Greenland waters, *Alken* was wrecked off the coast of Greenland in a gale in 1949, and *Maagen* was scrapped in 1959.

INSHORE MINESWEEPERS

4 New Construction MSI Type

Displacement:	180 tons (official figure)
Machinery:	Speed = 13 kts.

Notes
Four new inshore minesweepers of the MSI type were laid down in 1959-60 it is officially stated. They will be similar to the British " Ham " class.



STRYNØ 1953, *courtesy Captain R. Steen Steensen, R.D.N.*

6 " Asko " Class

ASKØ M 560 (ex-*MS* 2) **ENØ** M 562 (ex-*MS* 5) **LYØ** M 565 (ex-*MS* 8)
BAAGØ M 561 (ex-*MS* 3) **HJORTØ** M 564 (ex-*MS* 7) **MANØ** M 566 (ex-*MS* 9)

Displacement:	74 tons
Dimensions:	78⅔ × 21 × 5 feet
Guns:	1—20 mm., 2 M.G.
Machinery:	Diesel. 1 shaft. B.H.P.: 350 = 11 kts.
Complement:	11

Notes
Of wooden construction. All launched in 1941. These remaining six boats are used for training purposes only.

Recent Disposals
MS 4 was scuttled in Aug. 1943. *Sorte*, *Sara* and *Stryno* were condemned on 30 June 1956. Sister ship *Faeno* M 563 (ex-*MS* 6) was transferred to the Naval Homeguard in Feb. 1960.

MOTOR MINESWEEPERS

3 " Alholm " Class

ALHOLM Y 369 (ex-*MSK* 1) **BIRKHOLM** Y 370 (ex-*MSK* 2)
ERTHOLM Y 371 (ex-*MSK* 3)

Displacement:	68 tons
Dimensions:	65⅔ × 16¾ × 7½ feet
Guns:	1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 120 = 10 kt

Notes
Built by Frederikssundvaerft. All launched in 1945.

3 " Fyrholm " Class

FYRHOLM Y 372 (ex-*MSK* 4) **GRÆSHOLM** Y 373 (ex-*MSK* 5)
LINDHOLM Y 374 (ex-*MSK* 6)

Displacement:	70 tons
Dimensions:	69 × 17 × 9 feet
Guns:	1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 120 = 10 kts.

Notes
Built by Sydhavnsvaerft. All launched in 1944-45.

2 " Klordyb " Class

KLØRDYB M 569 (ex-*ML* 2) **VEJDYB** M 570 (ex-*ML* 3)

Displacement:	21 tons
Dimensions:	50 × 13¾ × 3¼ feet

Notes
All launched in 1944. Officially classed as shallow water minesweepers. *Graadyb* was condemned on 4 Feb. 1956.

TENDERS

HOLLÆNDERDYBET (ex-*Den Lille Havfrue*) **KONGEDYBET** (ex-*Kirsten Piil*)

Displacement:	158 tons *full load* (88 tons *gross*)
Dimensions:	150 × 19 × 7¼ feet
Machinery:	Diesel

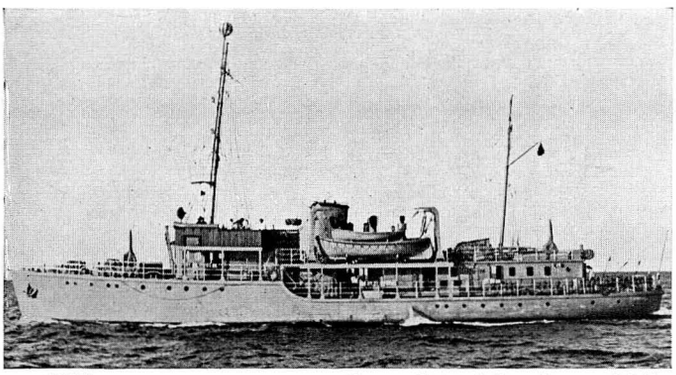
Notes
Both launched in 1935. Manned by Coast Artillery personnel. Used for transport purposes.

SURVEYING VESSELS (*Opmaalingsskibe*)

2 New Construction FF Type

Displacement:	1,650 tons
Dimensions:	239½ × 37¾ × 15¾ feet
Guns:	1—3 inch dual purpose
Aircraft:	1 or 2 helicopters
Machinery:	Diesels. B.H.P.: 6,400 = 18 kts.

Notes
It is officially stated that these two frigate type vessels are to be laid down in 1960 for fishery protection and surveying duties in Greenland waters. They will be equipped with a helicopter platform.

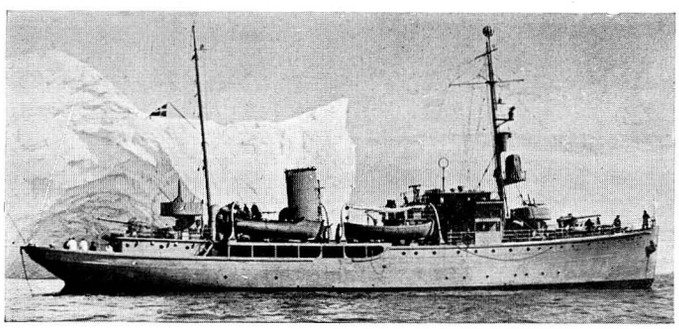


FREJA *Courtesy Captain R. Steen Steensen, R.D.N.*

FREJA

Displacement:	322 tons
Dimensions:	124¾ (*pp.*), 134 (*o.a.*) × 25¼ × 7¼ feet
Guns:	2—20 mm. AA. (Not mounted when on Surveying Service)
Machinery:	Triple expansion. 1 shaft. I.H.P.: 300 = 10·5 kts.
Boilers:	1 cylindrical
Oil Fuel:	15 tons
Complement:	40

Notes
Built at the Royal Dockyard, Copenhagen. Launched on 22 Dec. 1938. Pennant No. A 541. The surveying tender *Ternen* was wrecked and sunk in Ravns Storoe Island Harbour, Greenland, in 1957. She was subsequently raised but has since been stricken from the Navy List.



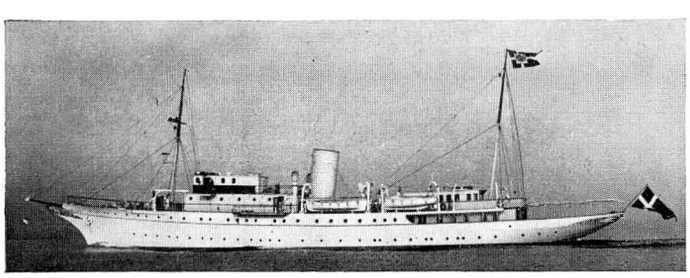
HEJMDAL *Courtesy Captain R. Steen Steensen, R.D.N.*

HEJMDAL

Displacement:	705 tons
Dimensions:	175 (*o.a.*) × 30 × 12 feet
Guns:	1—3 inch, 2—20 mm.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 800 = 12·5 kts.
Boilers:	2 cylindrical
Oil fuel:	100 tons
Radius:	4,000 miles at 12 kts.
Complement:	40

Notes
Built at the Royal Dockyard, Copenhagen. Launched on 1 Feb. 1935. Completed in April 1935. Classed as a Surveying Vessel, but also employed on Fishery Protection duties. Mainmast, removed during the war, re-stepped. Pennant No. A 542.

ROYAL YACHT (*Kongeskib*)



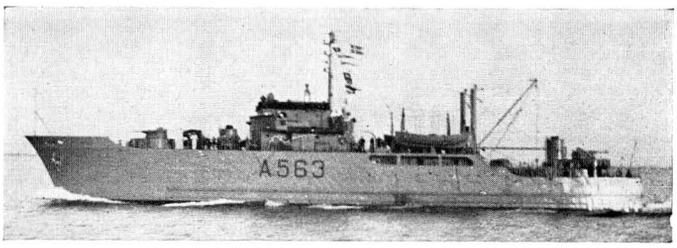
DANNEBROG 1958, *Royal Danish Navy, Official*

DANNEBROG

Displacement:	1,130 tons
Dimensions:	246 (*o.a.*) × 34 × 11¾ feet
Guns:	2—37 mm.
Machinery:	2 sets Burmeister & Wain 8-cylinder, 2-cycle diesels. B.H.P.: 1,800 = 14 kts.
Complement:	57

Notes
Built at the Royal Dockyard, Copenhagen. Launched in 1931.

DEPOT AND REPAIR SHIPS



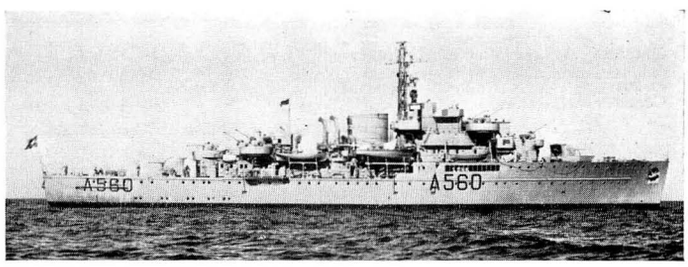
HJAELPEREN 1956, *Royal Danish Navy, Official*

Ex-U.S. LSM Type

HJÆLPEREN (ex-U.S. *LSM* 500)

Displacement:	743 tons (1,095 tons *full load*)
Dimensions:	203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,800 = 12 kts.
Complement:	60

Notes
Ex-United States medium landing ship. Transferred on 15 May 1953. Depot and repair ship for MTBs.



AEGIR 1959, *Royal Danish Navy, Official*

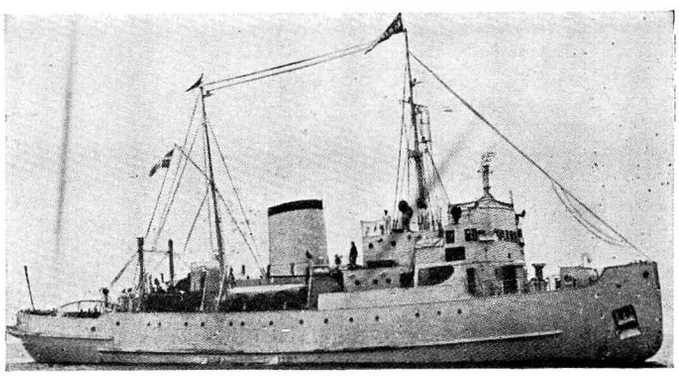
Ex-German Type

ÆGIR (ex-*Tanga*)

Displacement:	2,620 tons
Dimensions:	299 (311¾ *o.a.*) × 44½ × 13½ feet
Guns:	4—4 inch, 6—40 mm. AA.
Machinery:	2 M.A.N. diesels. B.H.P.: 4,100 = 17·5 kts.
Complement:	200

Notes
Ex-German depot ship. Built by Neptun Werft, Rostock. Launched in 1938. Purchased and renamed. Refitted, rearmed and modernised. As rebuilt has a new lattice mast, and new anti-aircraft armament. Reconstruction was completed in June 1951. Pennant No. A 560.

ICEBREAKERS



ELBJØRN *Official*, 1956

ELBJØRN

Displacement:	893 tons
Dimensions:	157½ × 41½ × 14½ feet

Notes
Built in 1953. Has diesel-electric drive.

STOREBJØRN

Displacement:	2,540 tons
Dimensions:	197 × 49½ × 19 feet

Notes
Icebreakers are controlled by the Ministry of Trade and Shipping.

LILLEBJØRN

Displacement:	1,000 tons
Dimensions:	144½ × 36½ × 18 feet

ISBJØRN

Displacement:	1,675 tons
Dimensions:	170¾ × 40 × 22½ feet

Notes
Has two funnels. All the other icebreakers have only one.

MJØLNER

Displacement:	515 tons
Dimensions:	144½ × 35½ × 15¾ feet

DOMINICAN REPUBLIC

Administration

President and Supreme Chief of Naval Forces: Admiral of the Fleet Hector Bienvenido Trujillo Molina

Secretary of Armed Forces: Lieutenant-General José Garcia Trujillo

Commander-in-Chief of Naval Forces: Generalisimo Dr. Rafael Leonidas Trujillo Molina

Chief of Naval Staff: Rear Admiral Rafael B. Richardson L.

Vice-Chief of Naval Staff: Commander Francisco Antonio Amiama Castilio

Personnel

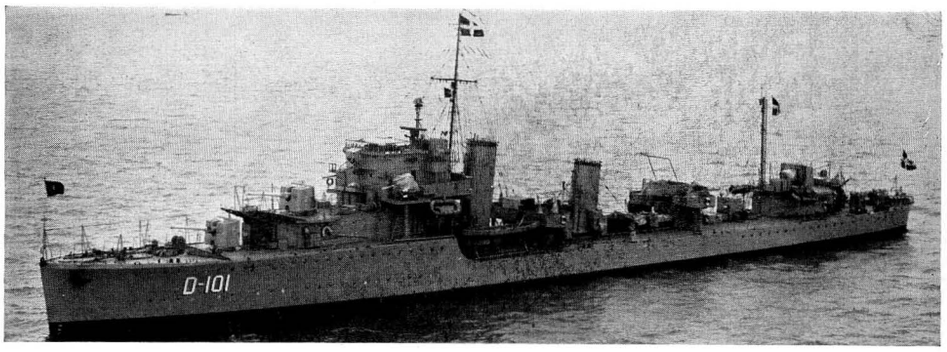
1960: 4,000 officers and men

DESTROYERS (*Destructores*)

1 Ex-British "Hero" Class

TRUJILLO (ex-H.M.S. *Hotspur*)

Pennant No.:	D 101
Builders:	Scotts' S.B. & Eng. Co. Ltd., Greenock
Laid down:	27 Feb. 1935
Launched:	23 Mar. 1936
Completed:	29 Dec. 1936
Displacement:	1,340 tons *standard* (2,020 tons *full load*)
Dimensions:	312 (*pp.*), 320 (*w.l.*), 323 (*o.a.*) × 33 × 8½ feet (*mean*)
Guns:	3—4·7 inch, 6—20 mm. AA.
Tubes:	4—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 34,000=36 kts. (31 kts. sea speed)
Boilers:	3 Admiralty 3-drum type
Oil fuel:	455 tons
Radius:	5,700 miles at 15 kts.
Complement:	145



TRUJILLO — 1954, *Skyfotos*

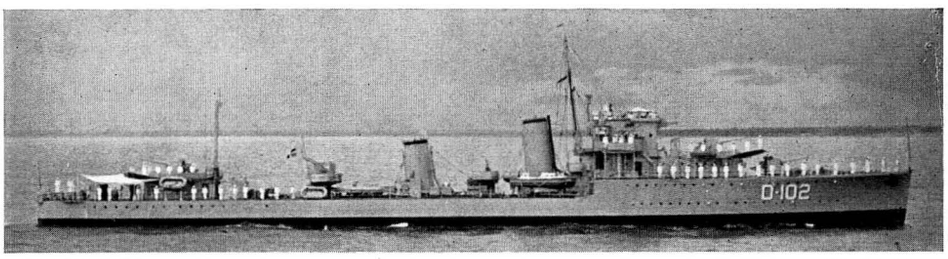
Notes

Former British destroyer of the "H" flotilla which served in the Royal Navy until Nov. 1948 when she was purchased from Great Britain and renamed.

1 Ex-British "Fearless" Class

GENERALISIMO (ex-H.M.S. *Fame*)

Pennant No.:	D 102
Builders:	Vickers-Armstrongs. Barrow
Laid down:	5 July 1933
Launched:	28 June 1934
Completed:	26 Apr. 1935
Displacement:	1,350 tons *standard* (2,060 tons *full load*)
Dimensions:	318¼ (*pp.*), 326 (*w.l.*), 329 (*o.a.*) × 33¼ × 8½ feet (*mean*)
Guns:	3—4·7 inch, 6—20 mm. AA.
Tubes:	4—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines S.H.P.: 36,000=36 kts. (31 kts. sea speed)
Boilers:	3 Admiralty 3-drum type
Oil fuel:	480 tons
Radius:	6,000 miles at 15 kts.
Complement:	145



GENERALISIMO — 1953, *Official*

Notes

Former British destroyer of the "F" flotilla which served in the Royal Navy until Feb. 1949 when she was transferred from Great Britain and renamed.

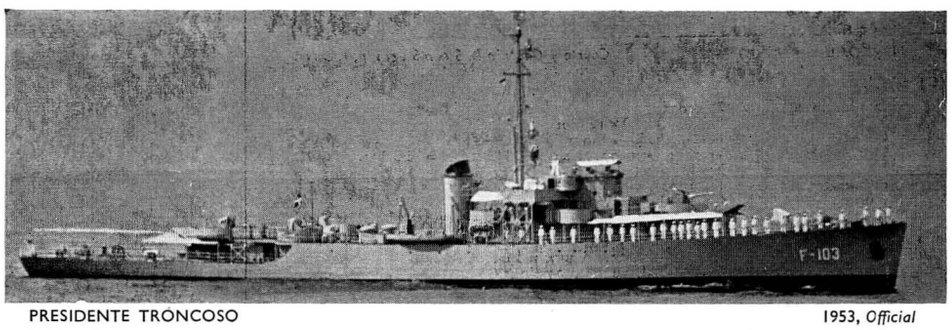
FRIGATES (*Fragatas*)

2 Ex-U.S. "River" Type

PRESIDENTE PEYNADO (ex-U.S.S. *Knoxville, PF 64*)
PRESIDENTE TRONCOSO (ex-U.S.S. *Pueblo, PF 13*)

Name:	*Presidente Peynado*	*Presidente Troncoso*
Pennant No.:	F 104	F 103
Builders:	Leatham D. Smith S.B. Co., Wis.	Kaiser S.Y., Richmond, Cal.
Laid down:	15 Apr. 1943	14 Nov. 1943
Launched:	10 July 1943	20 Jan. 1944
Completed:	29 Apr. 1944	27 May 1944

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	304 (*o.a.*) × 37½ × 12 (*mean*), 13⅔ (*max.*) feet
Guns:	1—4 inch, 2—3 inch, 2—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19 kts. (Trial speed 20·3 kts.)
Boilers:	2, of 3-drum type
Oil fuel:	760 tons
Complement:	140



PRESIDENTE TRONCOSO — 1953, *Official*

Notes

Former United States "Tacoma" class frigates. Transferred to Dominican Navy in 1949. The frigate *Juan Pablo Duarte* (ex-U.S.S. *Natchez*, ex-H.M.S. *Annan*) was lost.

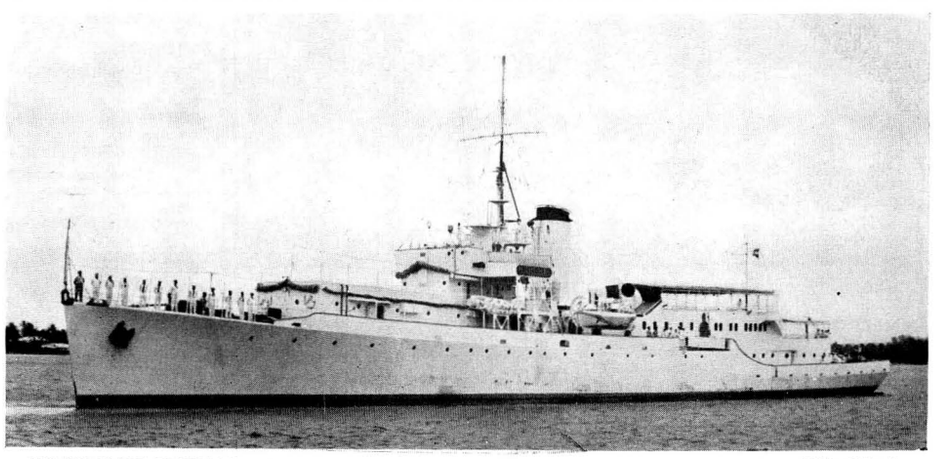
1 Ex-Canadian "River" Type

PRESIDENTE TRUJILLO (ex-H.M.C.S. *Carlplace*)

Builders:	Davie S.B. and Repairing Co., Lauzon
Launched:	6 July 1944
Completed:	13 Dec. 1944
Displacement:	1,400 tons *standard* 2,125 tons (*full load*)
Dimensions:	301½ × 36⅔ × 12 (*mean*) feet
Guns:	1—4 inch, 2—47 mm., 1—40 mm. AA. as frigate (no longer mounted)
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Oil fuel:	645 tons
Complement:	140

Notes

Transferred to the Dominican Navy in 1946. Original Dominican frigate. Modified for use as Presidential Yacht with extra accommodation and deck-houses built up aft. Pennant No. as a frigate was F 101, but as the Presidential Yacht she no longer wears it.



PRESIDENTE TRUJILLO — 1958, *Official*

CORVETTES (*Corbetas*)

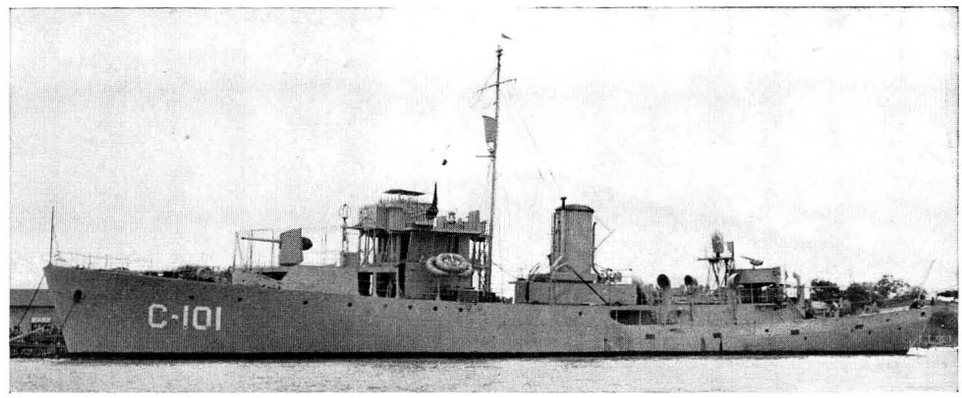
5 Ex-Canadian "Flower" Type

CRISTOBAL COLON (ex-H.M.C.S. *Lachute*)
GERARDO JANSEN (ex-H.M.C.S. *Peterborough*)
JUAN ALEJANDRO ACOSTA (ex-*Louisbourg*)
JUAN BAUTISTA CAMBIASO (ex-*B'Ileville*)
JUAN BAUTISTA MAGGIOLO (ex-*Rivière du loup*)

Displacement:	1,060 tons *standard* (1,350 *tons full load*)
Dimensions:	193 (*pp.*), 208 (*o.a.*) × 33 × 13¾ (*mean*) feet
Guns:	1—4 inch AA. (*Colon*, 1—3 inch). 1—40 mm., 2—20 mm. AA,, 2 M.G.
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	232 tons
Complement:	53

Notes
Built by Kingston Shipbuilding Co., Kingston, Ont. (*Jansen* and *Cambiaso*) and Morton Ltd., Quebec City, P.Q. (other three). Transferred to the Dominican Navy in 1947. The sixth ship, *Asbestos*, was wrecked *en route* from Canada.

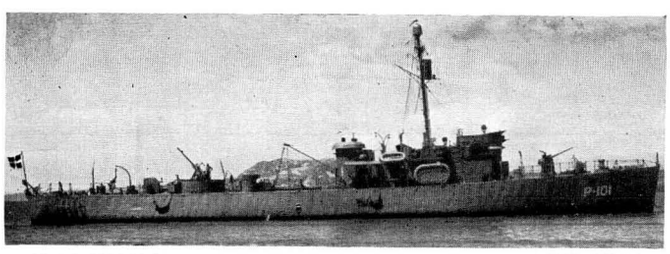
New Acquisitions
It was reported in 1960 that the Dominican Republic is negotiating for the purchase of the British "Algerine" class escort minesweepers *Bramble* and *Tanganyika* to replace two of the above vessels as corvettes.



COLON 1951, *Official*

Pennant No.	*Name*	*Builders*	*Launched*	*Completed*
C 101	*Cristobal Colon*	Morton Ltd., Quebec City	9 June 1944	26 Oct. 1944
C 104	*Gerado Jansen*	Kingston S.B. Co., Ont.	15 Jan. 1944	1 June 1944
C 102	*Juan Alejandro Acosta*	Morton Ltd., Quebec City	13 July 1943	13 Dec. 1943
C 103	*Juan Bautista Cambiaso*	Kingston S.B. Co., Ont.	17 June 1944	19 Oct. 1944
C 105	*Juan Bautista Maggiolo*	Morton Ltd., Quebec City	2 July 1943	21 Nov. 1943

PATROL VESSELS (*Patrulleros*)



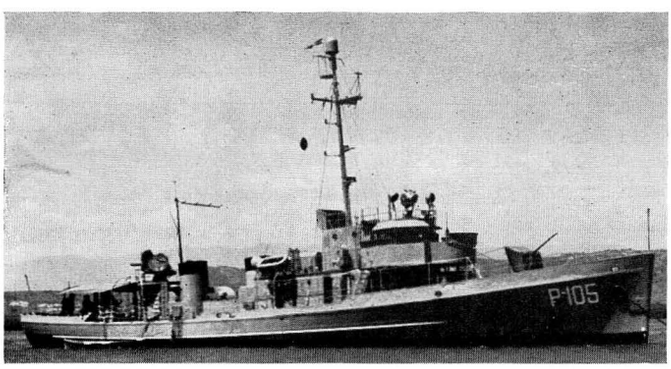
27 DE FEBRERO 1957, *Official*

3 Ex-U.S. PC Type

27 DE FEBRERO (ex-*PC* 613, 27 Oct. 1942)
CAPITAN WENCESLAO ARVELO (ex-*PC* 1202, 27 Feb. 1943)
CIBAO (ex-*Engage*, ex-*PC* 1597, 11 July 1942)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ × 23 × 7½ feet
Guns:	1—3 inch, 50 cal., 1—40 mm. AA., 1—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 3,750=22 kts.
Complement:	50

Notes
Ex-United States patrol vessels (submarine chasers). Launch dates above. Built by Gibbs Gas Engine Co., Jacksonville, Fla.; Consolidated S.B. Corp., Morris Heights, N.Y.; and Dravo Corp., Neville Island, Pa., respectively, laid down on 7 July 1942, 2 Jan. 1943, and 26 Feb. 1942, completed on 2 June 1943, 23 June 1943, and 22 Oct. 1942. Pennant Nos. P 101, P 102, and P 103, respectively.



INDEPENDENCIA 1957, *Official*

3 Ex-U.S.C.G. WPC Type

INDEPENDENCIA (ex-U.S. C.G.C. *Icarus*)
LIBERTAD (ex-*Rafael Atoa*, ex-U.S. C.G.C. *Thetis*)
RESTAURACION (ex-U.S. C.G.C. *Galathea*)

Displacement:	334-337 tons
Dimensions:	165 × 25½ × 9½ feet
Guns:	1—3 inch, 1—40 mm., 1—20 mm.
Machinery:	2 Diesels. B.H.P.: 1,280=15 kts.
Complement:	35

Notes
Ex-United States Coastguard Cutters. All launched in 1931-32. *Independencia* was built by Bath Iron Works in 1932, and *Restauracion* by John H. Mathis & Co., Camden, N.J., in 1933. Pennant Nos. P 105, P 106, and P 104, respectively.

LANDING CRAFT (*Barcazas de Desembarco*)



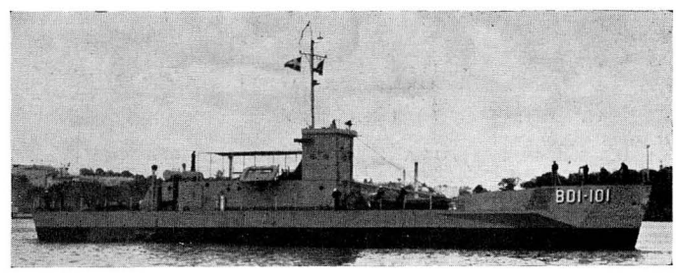
SAN RAFAEL 1953, *Official*

1 Ex-U.S. LSM Type. Rated as Auxiliary (*Buque Auxiliar*)

SAN RAFAEL (ex-U.S.S. *LSM* 216)

Displacement:	743 tons *standard* (1,100 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7 feet
Machinery:	2 Diesel motors 2 shafts. Speed=11 kts.
Complement:	36

Notes
Ex-United States *LSM*. (Medium Landing Ship.) Pennant No. *BA* 103. Two LSMs are being acquired from the United States.



BDI *Official*

1 Ex-U.S. LCIL Type. Rated as Infantry Landing Craft (*Barcaza Desembarco Infanteria*)

PARAISO (ex-*Quetzal*, ex-*Fantasma*, ex-*LCIL* 1006)

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 158½ (*o.a.*) × 23⅔ × 5⅔ feet
Guns:	3—20 mm. AA., 2 M.G.
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 2,320=14 kts.
Complement:	24

Notes
BDI 101 and *BDI* 102 were removed from the effective list in 1957. *BDI* 103 (ex-*Quetzal*, ex-*Fantasma*), transferred from Dominican mercantile marine in 1952, was renamed *Paraiso* in 1957.

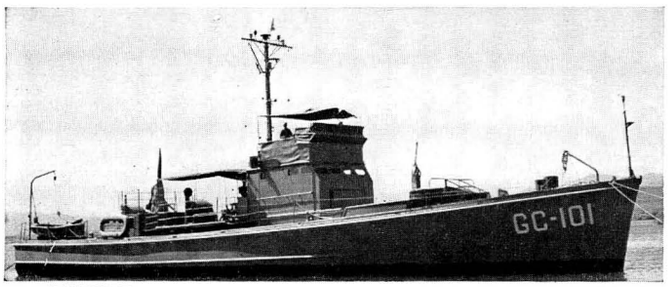
1 LCT Type. Rated as Auxiliary Landing Craft (*Lanchas Auxiliares*)

17 DE JULIO LA 3

Displacement:	150 tons standard (310 tons *full load*)
Dimensions:	105 (*w.l.*), 119½ (*o.a.*) × 36 × 3¾ feet
Guns:	1 AA., 50 cal.
Machinery:	3 sets diesel motors. B.H.P.: 441=7 kts.
Oil fuel:	80 tons
Complement:	17

Notes
This new landing craft named *17 de Julio* was launched on 24 Oct. 1957 to replace the *Samana*, LA 2, lost in bad weather.
The ex-United States Tank Landing Craft of the LCT (6) type, *17 de Julio* and *Maria Josefina*, Pennant Nos. *LA* 3 and *LA* 4 respectively, were withdrawn from service in 1956, but two landing craft of the same specifications are under construction.

COAST GUARD VESSELS (*Guardacostas*)

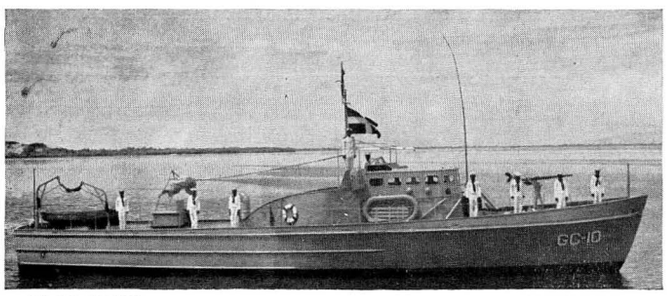


SANCHEZ 1952, *Official*

MELLA (ex-*Rosa*, ex-*SC* 1351, 11 March 1943)
SANCHEZ (ex-*Patricia*, ex-*SC* 1353, 3 June 1943)

Displacement:	85 tons standard (130 tons *full load*)
Dimensions:	107½ (*w.l.*), 111 (*o.a.*) × 17 × 6½ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 4,000=19·5 kts.
Fuel:	15 tons
Complement:	20

Notes
Built by Vineyard Boat Bldg. Co., Milford, Del. Launch dates above. Wood. Pennant Nos. GC 102 and GC 101, respectively. Renamed *Sanchez* and *Mella* in 1957.



22 DE JUNIO 1957, *Official*

LUPERON **22 DE JUNIO** **16 DE AGOSTO**

Displacement:	47 tons standard
Dimensions:	83 × 16½ × 4½ feet
Guns:	2—20 mm., 2 M.G., 8 D.C.
Machinery:	Diesel. B.H.P.: 1,200=23·5 kts.

Notes
Built by Wheeler Shipyards, Brooklyn. Launched in 1943. Hulls are of wood. Ex-U.S.C.G. cutters 56197, 56198 and 56199, respectively. Pennant Nos. GC 9, GC 10 and GC 11, respectively. Named in 1957. GC 3, GC 4, GC 5, GC 6 and GC 7 were discarded in 1957.

TRINITARIA

Displacement:	28 tons standard
Dimensions:	62 × 12 × 4 feet
Machinery:	Petrol motor. B.H.P.: 200=10 kts.

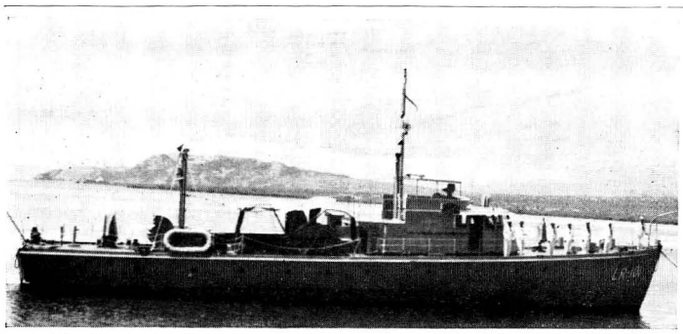
Notes
Built in the Dominican Republic. Launched in 1941. Hulls are of wood. No armament. Named *Trinitaria* in 1957. Pennant No. GC 8. Photograph in 1957-58 edition.

BOYA

Displacement:	18 tons standard
Dimensions:	45 × 11 × 3½ feet
Guns:	2 M.G.
Machinery:	Petrol motor. B.H.P.: 200=9·5 kts.

Notes
Ex-U.S. C—6049. Built in U.S.A. Hulls are of wood. Launched in 1918. Completed in 1927. Named *Boya* in 1957. Pennant No. GC 2. Photograph in the 1957-58 edition.

RESCUE LAUNCHES (*Lanchas de Rescate*)



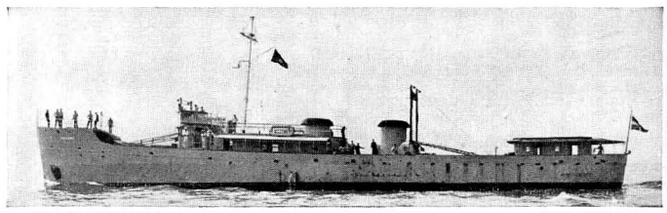
CAPITAN ALSINA 1959, *Official*

CAPITAN ALSINA **CAPITAN MADURO**

Displacement:	100 tons standard
Dimensions:	92 (*w.l.*), 104¾ (*o.a.*) × 19¼ × 5¾ feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	*Capitan Alsina*: Diesel; *Capitan Maduro*: 2 Packard engines. 2 shafts. H.P.: 1,000=17 kts.
Complement:	20

Notes
Of wooden construction. All launched in 1944. Named as above in 1957. Pennant Nos. LR101 and LR 103, respectively. LR 102 was lost in 1956.

AUXILIARIES (*Buques Auxiliares*)



18 DE DICIEMBRE 1952, *Official*

18 DE DICIEMBRE (ex-U.S. *WPC* 587)

Displacement:	280 tons *standard*
Machinery:	Hamilton diesel motors. B.H.P.: 1,800=18 kts.

Notes
A converted patrol vessel of the United States WPC type. Pennant No. BA 101.

LEONOR (ex-*Romanita*)

Measurement:	289 tons *gross*
Guns:	1 small
Machinery:	Triple expansion. 1 shaft. Speed=10 kts.

Notes
Pennant No. BA 102. Photograph of this ship in the 1957-58 edition.

MOTOR LAUNCHES (*Lanchas Auxiliares*)

NAJAYO

Notes
Pennant No. LA 4. Motor launch officially rated as *lancha auxiliar*.

ALTAGRACIA (ex-*Laura*)

Displacement:	9 tons *standard*
Dimensions:	38 × 8 × 5 feet
Machinery:	2 petrol motors. H.P.: 320=25 kts.
Complement:	5

Notes
Built in U.S.A. 1942. No armament. Pennant No. LA 1. Rated as *lancha auxiliar*.

TRAINING SHIP (*Goleta Auxiliar*)

DUARTE (ex-*Nueva Tioditie*)

Measurement:	170·28 tons *gross*
Dimensions:	121 × 23½ × 8¼ feet
Machinery:	1 Diesel. H.P.: 200=6 kts. (*max.*)
Complement:	12

Notes
Built in Dominican Republic 1943. Auxiliary sail training vessel. Pennant No. GA 1.

FLEET OILERS

SAN CARLOS

Displacement:	2,395 tons
Machinery:	Triple expansion. 1 shaft
Boilers:	2, working at a pressure of 175 lb. per sq. in.
Fuel:	22,596 gallons

Notes
Pennant No. BT 102. Photograph of this ship in the 1957-58 edition.

24 DE OCTUBRE (ex-*YO* 2)

Displacement:	1,460 tons
Measurement:	602 tons *gross*
Dimensions:	180 × 30 × 13¾ feet
Machinery:	2 Diesels. B.H.P.: 480=8 kts. (Loaded speed
Capacity:	280,000 gallons
Complement:	27

Notes
Built in U.S.A. in 1943. Recently used by Government as a commercial carrier. Pennant No. BT 101. Photograph in the 1957-58 edition.

LIGHTHOUSE AND BUOY TENDER

(*Buque de Faros y Boyas-Boyero*)

CAPOTILLO (ex-*Camillia*)

Displacement:	337 tons
Dimensions:	117 × 24 × 7¾ feet
Machinery:	2 Diesels. B.H.P.: 880=10 kts.
Complement:	40

Notes
Built in U.S.A. in 1911. Acquired from the U.S.C.G. in 1949. Pennant No. FB 101. Photograph of this ship in the 1957-58 edition.

TUGS (*Remolcadores*)

ISABELA

Displacement:	40 tons
Dimensions:	65 × 14 × 9 feet
Machinery:	2 Diesel motors. B.H.P.: 300=8 kts.
Complement:	8

Notes
Built in U.S.A. Named *Isabela* in 1957. Pennant No. R 1. Photograph in the 1951-52 to 1957-58 editions. The tug *Hercules* (ex-*Heracles*) transferred from Dominican mercantile marine in 1952, Pennant No. R 2, was lost in 1956.

BERGANTIN **LEONIDAS** **MERCEDES**
CATALINA **LUPERON** **SANTANA**

Notes
Small tugs. Pennant Nos. R 6, R 3, R 8, R 4, R 10 and R 7, respectively. Two tugs are under construction.

ECUADOR

Administration

Minister of Defence:
Sr. Gustavo Diez Delgado

Chief of 'Naval Staff:
Captain Sergio Saenz Bejarano

Commander-in-Chief of the Navy:
Rear Admiral Luis Gomez Cevallos

Naval Attaché in London:
Captain Ramon Castro Jijon

Personnel

1960: 3,700 officers and men
Naval Academy: In Salinas

Naval Bases

In Galápagos, Guayaquil and Salinas

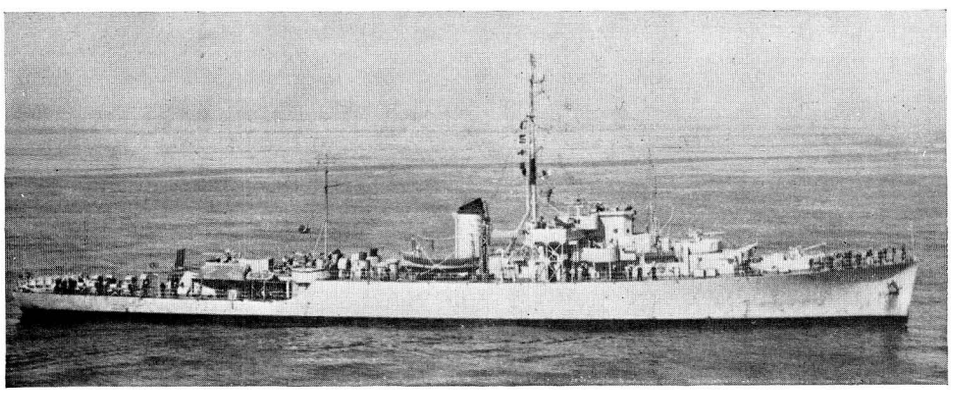
FRIGATES

1 Ex-U.S. PF Type

GUAYAS (ex-U.S.S. *Covington, PF* 56)

Pennant No.:	PF 1
Builders:	Globe S.B. Co., Superior, Wis.
Laid down:	1 Mar. 1943
Launched:	15 July 1943
Completed:	3 Aug. 1944

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	304 (*o.a.*) × 37½ × 13⅔ feet
Guns:	2—3 inch, 2—40 mm. AA., 4—20 mm. AA.
A/S weapons:	3 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (designed), sea speed 18 kts.
Boilers:	2 small tube
Oil fuel:	290 tons *normal*, 645 tons *max.*
Radius:	7,000 miles at 19 kts.; 9,500 miles at 12 kts.
Complement:	150



GUAYAS — 1960, *courtesy Mr. W. H. Davis*

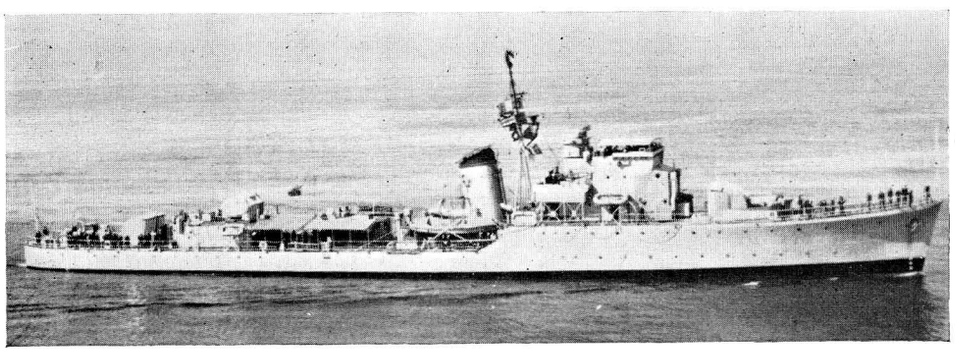
Notes
Former United States patrol frigate of the PF type. Purchased from the U.S.A. in 1947. Similar in design to British "River" class frigates.

2 Ex-British "Hunt" Class (Type 1) Escort Destroyers

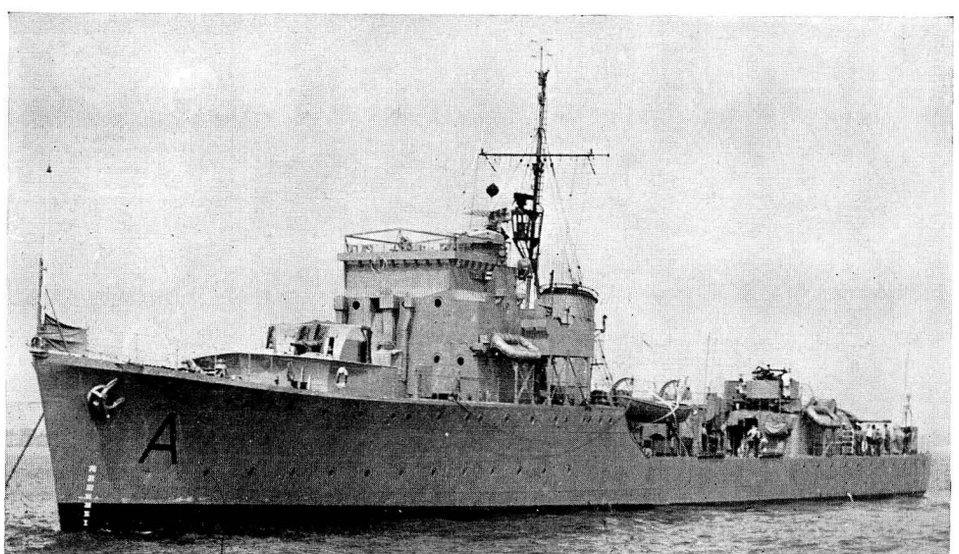
PRESIDENTE ALFARO (ex-*H.M.S. Quantock*)
PRESIDENTE VELASCO IBARRA (ex-*H.M.S. Meynell*)

Name:	*Presidente Alfaro*	*Presidente Velasco Ibarra*
Pennant No.	DD1	DD2
Builders:	Scott's Shipbuilding & Eng. Co., Ltd., Greenock.	Swan, Hunter & Wigham Richardson, Ltd., Wallsend.
Laid down:	26 July 1939	10 Aug. 1939
Launched:	22 Apr. 1940	7 June 1940
Completed:	6 Feb. 1941	30 Dec. 1940

Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	272½ (*pp.*), 280 (*o.a.*) × 29 × 7¾ (*mean*) 14 (*max.*) feet
Guns:	4—4 inch AA., 4—2 pdr., 2—20 mm. AA.
A/S weapons:	D.C.T., D.C. racks
Machinery:	Parsons geared turbines (by Wallsend Slipway in *Presidente Velasco Ibarra*). 2 shafts. S.H.P.: 19,000=30 kts. (designed). Sea speed 26·75 kts. (*max.*)
Boilers:	2 Admiralty 3-drum type
Oil fuel:	280 tons
Radius:	2,000 miles at 12 kts.; 800 miles at 25 kts.
Complement:	146



PRESIDENTE VELASCO IBARRA — 1960, *courtesy Mr. W. H. Davis*



PRESIDENTE ALFARO — 1957, *Official*

Notes

Former British frigates (ex-escort destroyers) of the "Hunt" Class, Type 1, purchased by Ecuador from Great Britain in 1955, and refitted by J. Samuel White & Co. Ltd., Cowes, Isle of Wight. *Quantock* was taken over by the Ecuadorian Navy from the Royal Navy in Portsmouth Dockyard on 16 Aug. 1955, when she was renamed *Presidente Alfaro*. Sister ship *Meynell* was transferred to the Ecuadorian Navy later and renamed *President Velasco Ibarra*.

ESCORT PATROL VESSELS

2 Ex-U.S. PCE Type Escort Patrol Vessels

ESMERALDAS (ex-U.S.S. *Eunice*, PCE 846)
MANABI (ex-U.S.S. *Pascagoula*, PCE 874)

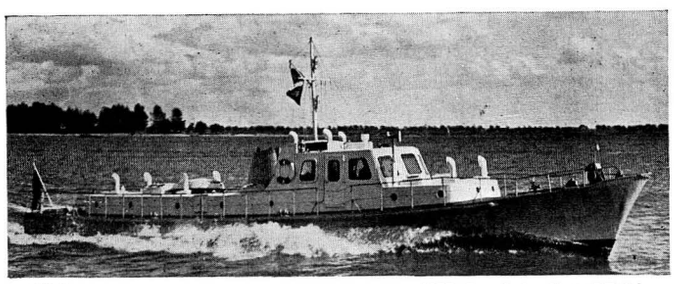
Name:	*Esmeraldus*	*Manabi*
Builders:	Pullman Standard Car Manufacturing Co., Chicago, Ill.	Albina Eng. & Mach. Works, Portland, Oreg.
Laid down:	10 Aug. 1943	1 Mar. 1943
Launched:	20 Dec. 1943	11 May 1943
Completed:	4 Mar. 1944	31 Dec. 1943

Displacement: 640 tons *standard* (903 tons *full load*)
Dimensions: 180 *w.l.*), 184½ (*o.a.*) × 33 1/12 × 9 5/12 feet
Guns: 1—3 inch dual purpose, 6—40 mm. AA.
A/S weapons: 4 D.C.T.
Machinery: General Motors diesels. 2 shafts. B.H.P.: 1,800=15·4 kts.
Complement: 100 officers and men

Notes
Built in the U.S.A. as above. Former United States patrol vessels (180 ft. Escorts) transferred from the U.S. Navy to the Ecuadorian Navy in 1960.

Recent Disposals
The patrol vessel (*guardacosta*) *Manabi* (ex-*Diez de Agosto*, ex-U.S.S. *Opal*, ex-*Coronet*) ex-yacht *PYc 8*, acquired from the United States Navy in Sep. 1943, was officially deleted from the list in 1960.
The patrol vessel (ex-yacht) *Esmeraldas* was sunk at Guayaquil in Guayas River 7 Sep. 1953.
The training ship *Presidente Alfaro* (ex-*Ara*) was discarded in 1956.

PATROL BOATS



LP 1 — 1955, *Ecuadorian Navy Official*

6 German Type

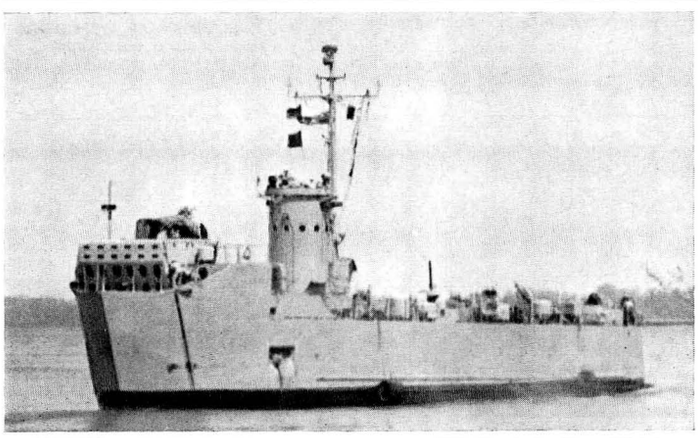
LSP 1 **LSP 2** **LSP 3** **LSP 4** **LSP 5** **LSP 6**

Displacement: 45 tons *standard* (64 tons *full load*)
Dimensions: 76¾ × 13½ × 4½ (*mean*), 6½ (*max.*) feet
Armament: AA. and ASW weapons
Machinery: Bohn & Kähler diesel. 2 shafts. B.H.P.: 1,200=22 kts.
Radius: 550 miles at 16 kts.
Complement: 9

Notes
Built by Hermann Havighorst, Bremen-Blumenthal. Ordered in 1954. First two were delivered August 1954, and the remainder in 1955.

Recent Disposals
The patrol boats LP 7 to LP 12 were officially deleted from the list in 1960.

LANDING SHIPS



JAMBELI — 1960, *Ecuadorian Navy, Official*

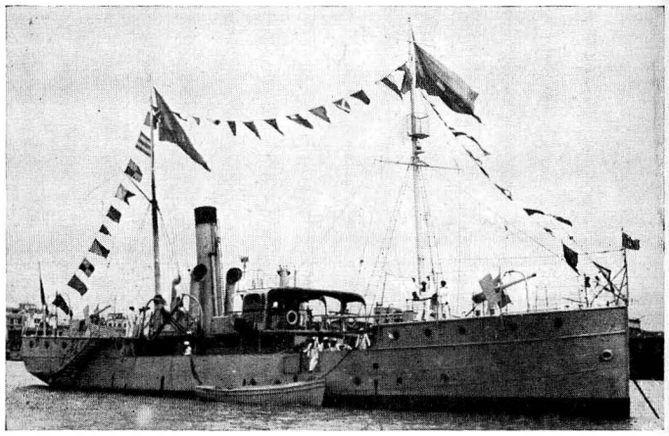
2 Ex-U.S. LSM Type

JAMBELI (ex-*U.S.S. LSM* 539) **TARQUI** (ex-U.S.S. *LSM* 555)

Displacement: 743 tons *beaching* (1,095 tons *full load*)
Dimensions: 196½ (*w.l.*), 203½ (*o.a.*) × 34¼ × 8½ feet
Guns: 2—40 mm. Bofors AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement: 60

Notes
Former United States Medium Landing Ships (LSM). *Jambeli* was laid down by Brown Shipbuilding Co., Houston, Tex., on 10 May 1945. *Tarqui* was laid down by the Navy Yard, Charleston, S.C. on 3 Mar. 1955 and launched on 22 Mar. 1945. Purchased from the U.S.A. in 1958 and transferred to the Ecuadarion Navy at Green Cove Springs, Florida.

COAST GUARD VESSELS



ABDON CALDERON — *Added 1955, Official*

ABDON CALDERON (ex-*Cotopaxi*)

Displacement: 300 tons
Dimensions: 124½ (*pp.*), 135 (*o.a.*) × 22 × 9 feet
Guns: 2—3 inch
Machinery: Triple expansion. 1 shaft. I.H.P.: 175=8 kts. (present best speed). Oil fuel

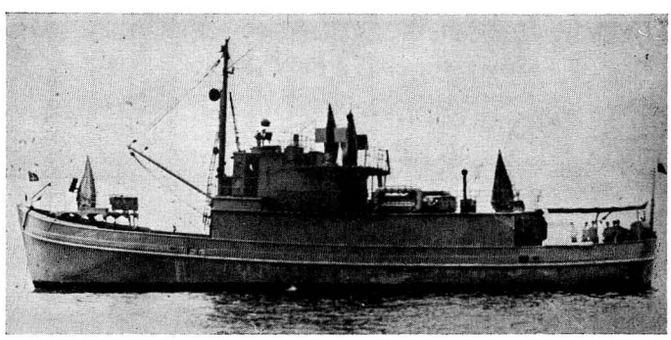
Notes
Former coasting steamer. Built at Port Glasgow. Launched in 1884. Built of iron. Is employed as a patrol vessel, on Coast Guard duties, and as lighthouse tender.

ATAHUALPA

Displacement: 70 tons *standard* (100 tons *full load*)
Dimensions: 74 × 17 × 5 feet
Guns: 2 M.G.
Machinery: Diesel. 1 shaft. B.H.P.: 140=8 kts.
Complement: 14

Notes
Coast Guard vessel. Built at Guayaquil. Launched in 1927. Employed as lighthouse tender.

TRANSPORT



EL ORO — *Add d 1955, Official*

EL ORO (ex-*Cinco de Junio*, ex-*APc* 85)

Displacement: 165 tons *standard* (258 tons *full load*)
Dimensions: 93 (*w.l.*), 103¼ (*o.a.*) × 21½ × 9¼ feet
Guns: 4—20 mm. AA.
Machinery: Diesel. 1 shaft. B.H.P.: 400=10 kts
Complement: 25

Notes
Built 1943 in U.S.A. by Herreshoff Manufacturing Company. Launched on 12 Mar. 1943. Purchased from the U.S. Navy in 1943. Accommodation for 66 troops.

TUG

COTOPAXI (ex-*R. T. Ellis*)

Displacement: 150 tons
Dimensions: 82 × 21 × 8 feet
Machinery: Diesel. 1 shaft. B.H.P.: 650=9 kts

Notes
Former American tug. Built by Equitable Building Co. Incorp. Purchased from the United States in 1947. Photograph in the 1956-57 to 1959-60 editions.

EGYPT

Administration

Commander-in-Chief and Chief of Staff of the Navy:
Rear Admiral Soliman Izzat

Personnel

1960: 6,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping
75 vessels of 156,057 tons *gross*

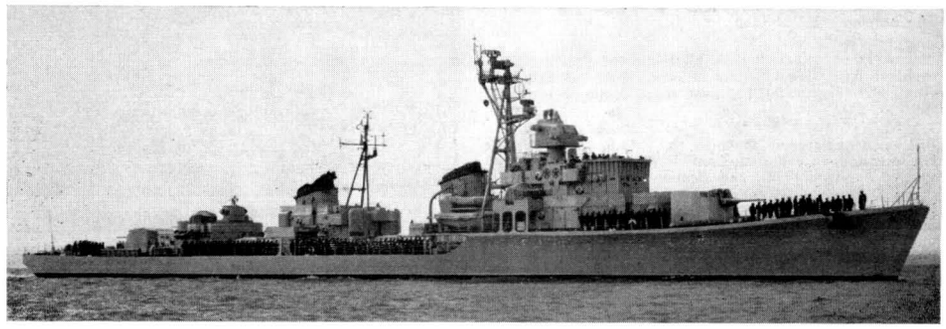
DESTROYERS

2 Ex-U.S.S.R. " Skoryi " Class

AL NASSER **AL ZAFFER**

Displacement:	2,600 tons *standard* (3,500 tons *full load*)
Dimensions:	393¾ (*pp.*), 420 (*o.a.*) × 41 × 13½ feet
Guns:	4—5·1 inch; 2—3 inch AA.; 7—37 mm., AA.
Tubes:	10—21 inch (quintrupled)
A/S weapons:	4 D.C.T.
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Radius:	4,000 miles at 15 kts.
Complement:	250

Notes
Formerly of the " Skoryi " class destroyers in the Soviet Navy. Launched in 1951. Delivered to the Egyptian Navy on 11 June 1956 at Alexandria. The implication of each name in Arabic is " victory." One of this class was set on fire by British forces during the Suez action, 1 Nov. 1956.



SKORYI Class *Added* 1958

It was reported in Dec. 1959 that a total of eight destroyers had been or were being transferred from the U.S.S.R. to the U.A.R.

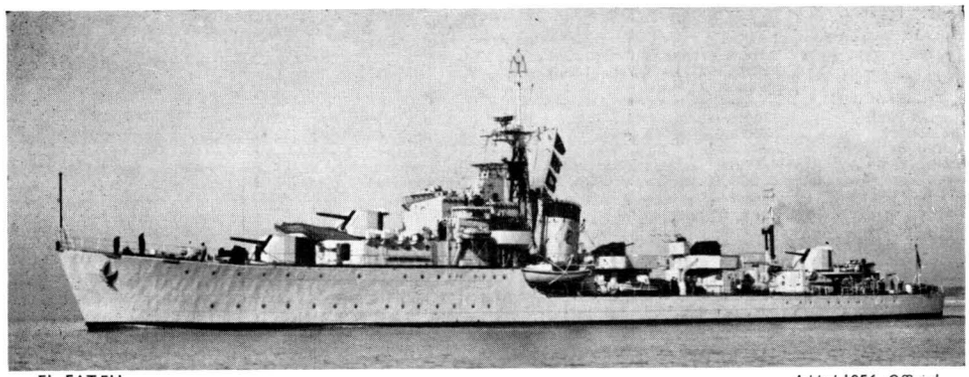
2 Ex-British " Z " Class

EL FATEH (ex-*Zenith*) **EL QAHER** (ex-*Myngs*)

Name	*El Fateh*	*El Qaher*
Builders:	Wm. Denny & Bros. Ltd., Dumbarton	Vickers-Armstrongs, Ltd., Tyne
Laid down:	19 May 1942	27 May 1942
Launched:	5 June 1944	31 May 1943
Completed:	22 Dec. 1944	23 June 1944

Displacement:	1,730 tons *standard* (2,575 tons *full load*)
Dimensions:	362¾ × 35¾ × 16 (*max.*) feet
Guns:	4—4·5 inch d.p.; 6—40 mm. AA.
A/S weapons:	4 D.C.T.
Tubes:	8—21 inch
Machinery:	Parsons geared turbines. S.H.P.: 40,000= 6·75 kts. (designed), sea speed 31·25 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	250

Notes
Formerly of the " Z " class destroyers in the British Navy. Purchased from Great Britain in 1955. *El Qaher* was refitted by J. Samuel White & Co. Ltd., Cowes, Isle of Wight, and *El Fateh* refitted by John I. Thornycroft & Co. Ltd., Woolston, Southampton in July 1956.



EL FATEH *Added* 1956, *Official*



EL QAHER 1953, *Wright & Logan*

FRIGATES

1 Ex-British " Black Swan " Class

TARIK (ex-*El Farouq*, ex-*Whimbrel*)

Pennant No.:	41
Builders:	Yarrow & Co., Ltd., Glasgow
Laid down:	31 Oct., 1941
Launched:	25 Aug., 1942
Completed:	13 Jan., 1943

Displacement:	1,490 tons *standard* (1,925 tons *full load*)
Dimensions:	299½ × 38½ × 8¾ feet (11 *max.*)
Guns:	6—4 inch, 4—40 mm., 2—20 mm. AA
A/S weapons:	4 D.C.T.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 4,300=19·75 kts. (designed), sea speed 18 kts.
Boilers:	2, of 3-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	180



TARIK 1951 *A. & J. Pavia*

Notes
Formerly of the " Black Swan " class sloops (later re-rated as frigates) in the British Navy. Transferred from Great Britain in Nov. 1949. As a flotilla leader she had a broad band painted on the funnel and a thinner flotilla band.

Frigates—*continued*

1 Ex-British " River " Class

RASHEED (ex-*Spey*)

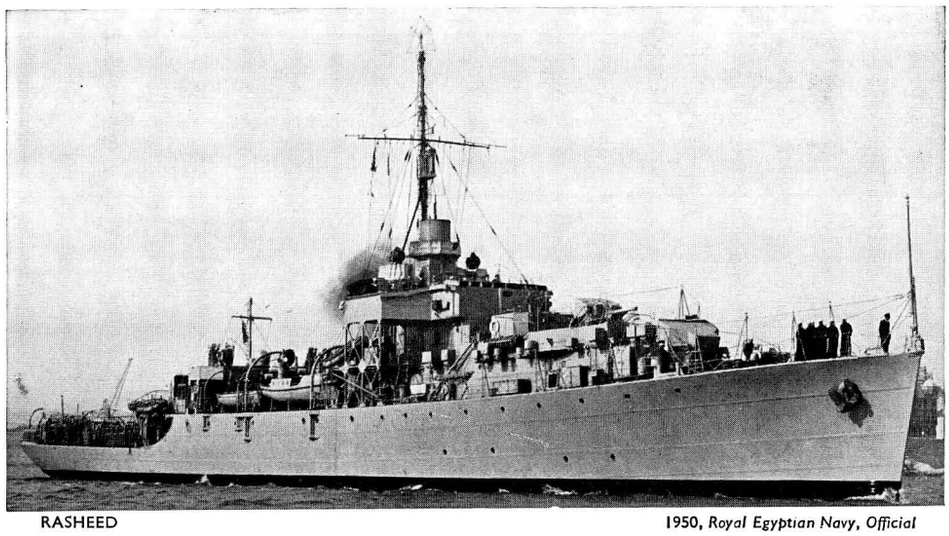
Pennant No.:	43
Builders:	Smith's Dock Co. Ltd., Middlesbrough
Laid down:	18 July 1941
Launched:	10 Dec. 1941
Completed:	19 May 1942
Displacement:	1,490 tons *standard* (2,216 tons *full load*)
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36⅔ × 14 feet
Guns:	2—4 inch, 2—40 mm. AA., 6—20 mm. AA.
A/S Weapons:	4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (designed), sea speed 18 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	640 tons
Radius:	9,500 miles. at 12 kts.
Complement:	140

General Notes

Formerly of " River " class frigates in the British Navy. Purchased from Great Britain in Nov. 1948. Refitted by Willoughby (Plymouth), Ltd., and sailed for Egypt in Apr. 1950.

Class Notes

Of her two sister ships *Abikir* (ex-H.M.S. *Usk*) was sunk as a blockship in the Suez Canal in Nov. 1956 (raised and dumped in Apr. 1957); and *Domiat* (ex-H.M.S. *Nith*) was sunk by the British cruiser *Newfoundland* off Suez on 1 Nov. 1956.



RASHEED — 1950, *Royal Egyptian Navy, Official*

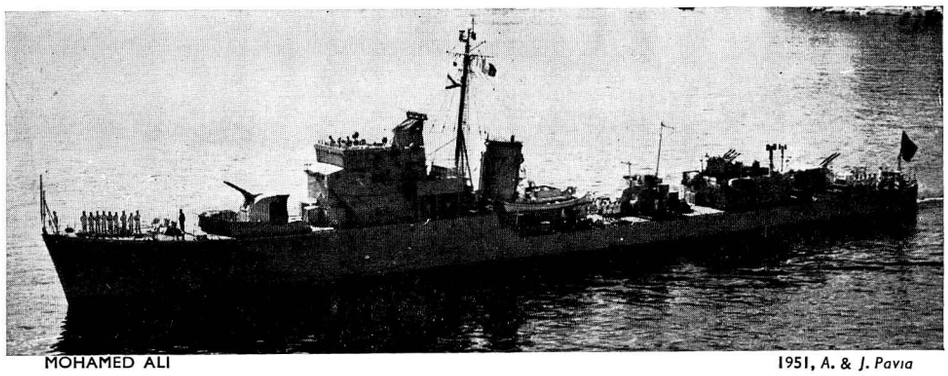
1 Ex-British " Hunt " Class

MOHAMED ALI (ex-*Ibrahim el Awal*, ex-*Cottesmore*)

Pennant No.	11
Builders:	Yarrow & Co., Ltd., Scotstoun, Glasgow.
Laid down:	12 Dec. 1939
Launched:	5 Sep. 1940
Completed:	29 Dec. 1940
Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	273½ (*pp.*), 280 (*o.a.*) × 29 × 7¾ (*mean*), 14 (*max.*) feet
Guns:	4—4 inch, 2—40 mm., 2— mm. AA., 5—2 pdr.
A/S Weapons:	2 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29·5 kts. (designed), sea speed 26 kts.
Boilers:	2, of 3-drum type
Oil Fuel:	280 tons
Radius:	2,000 miles at 12 kts.
Complement:	146

General Notes

Former British escort destroyer (later re-rated as frigate) of the " Hunt " Class, Type I. She served in the British Navy from 1940, but she was transferred from the British Navy to the Egyptian Navy in July 1950, and sailed for Egypt in April 1951, after a nine months' refit by J. Samuel White & Co. Ltd., Cowes. She was first renamed *Ibrahim el Awal* but was renamed *Mohamed Ali el Kebir* about 1951.



MOHAMED ALI — 1951, *A. & J. Pavia*

Class Notes

Sister ship *Ibrahim el Awal* served in the British Navy as H.M.S. *Mendip* until 1948, when she was transferred to the Chinese Navy and renamed *Lin Fu*; she was returned to the British Navy at Hong Kong a year later and reverted to her original name, but was transferred to the Egyptian Navy in Nov. 1949, when she was first renamed *Mohamed Ali el Kebir* but was afterwards again renamed *Ibrahim el Awal*, exchanging names with her sister ship about 1951-52. The *Ibrahim el Awal* (ex-*Mohamed Ali el Kebir*, ex-*Mendip*, ex-*Lin Fu*, ex-*Mendip*) surrendered to Israeli forces off Haifa on 31 Oct. 1956; she was rehabilitated and incorporated into the Israeli Navy and renamed *Haifa* (see later page).

1 Ex-British " Flower " Class

EL SUDAN (ex-*Mallow*, ex-*Partizanka*, ex-*Nada*, ex-*Mallow*)

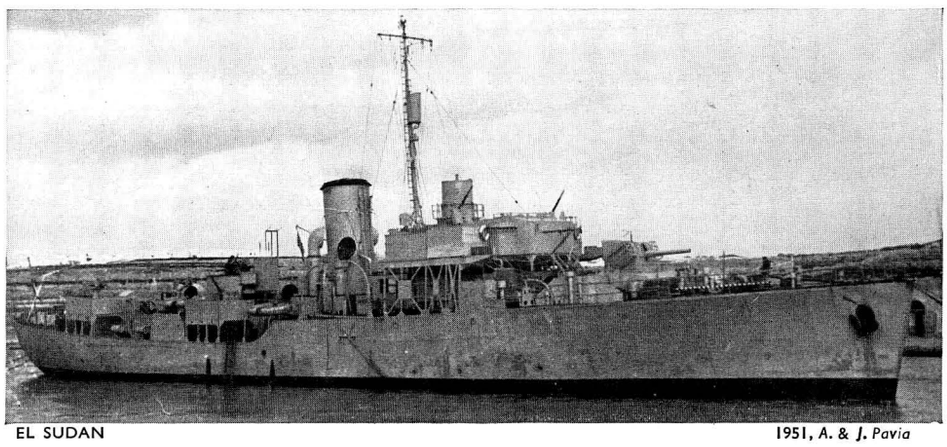
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	14 Nov., 1939
Launched:	22 May, 1940
Completed:	2 July, 1940
Displacement	1,060 tons *standard* (1,340 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet (*max.*)
Guns:	1—4 inch AA., 1—2 pdr., 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 S.E.
Oil fuel:	230 tons
Radius:	7,000 miles at 10 kts.
Complement:	85

General Notes

Formerly of the " Flower " class corvettes (later re-rated as Frigates) in the British Navy. Taken over by Yugoslavia in 1943 (loaned). Returned to the British Navy early in 1949 and transferred to Egypt on 28 Oct. 1949.

Class Notes

Sister ship *Misr* (*S.S. Malrouk*) was rammed and sunk by collision south of Suez 16th-17th May 1953.



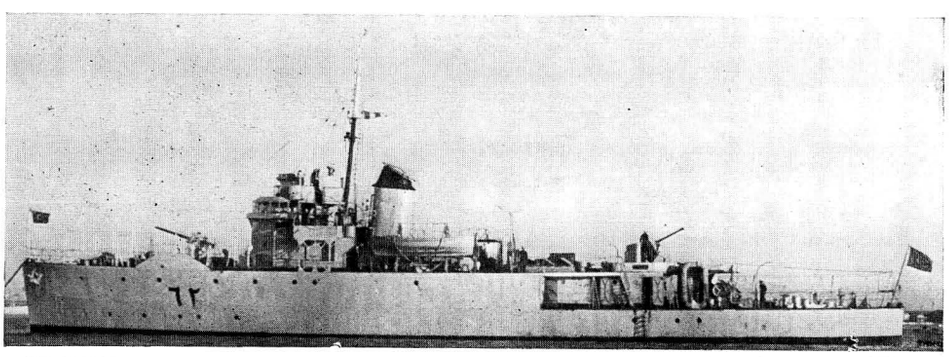
EL SUDAN — 1951, *A. & J. Pavia*

CORVETTES (*ex-Fleet Minesweepers*)

2 Ex-British " Bangor " Class

	MATROUH (ex-*Stornoway*)	**NASR** (ex-*Bude*)
Name:	*Matrouh*	*Nasr*
Builders:	Henry Robb, Ltd., Leith	Lobnitz & Co., Ltd., Renfrew
Laid down:	17 July 1940	2 Apr. 1940
Launched:	10 June 1941	4 Sep. 1940
Completed:	17 Nov. 1941	12 Dec 1941

Displacement:	672 tons standard (900 tons *full load*)
Dimensions:	180 (*o.a*) × 28½ × 9½ feet
Guns:	1—4 inch, 1—3 inch, 2—40 mm. AA. (4—20 mm. in *Matrouh*)
A/S Weapons	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=16 kts. (designed), sea speed 14 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	170 tons
Radius:	4,300 miles at 10 kts.
Complement:	60



MATROUH — 1955, *Egyptian Navy, Official*

General Notes

Former " Bangor " class fleet minesweepers acquired from Great Britain. Now rated as corvettes.

Class Notes

Sister ship *Sollum* sank in heavy weather off Alexandria on 7 Mar. 1953.

SUBMARINES

8 Ex-U.S.S.R. "W" Class

Displacement:	1,300 tons *surface*, 1,600 tons *submerged*
Dimensions:	245 (o.a.)×24×14 feet
Guns:	1—3·9 inch; 1 light AA.
Tubes:	8—21 inch
Machinery:	Diesels. B.H.P.: 4,000=17 kts. *surface*; Electric motors. H.P.: 2,500=16 kts. *submerged*
Radius:	13,000 miles
Complement:	60

Notes
Medium size, long range, streamlined submarines of the "W" class, the first units of which were transferred from the Soviet Navy to the Egyptian Navy in June 1957. Three more arrived at Alexandria on 24 Jan. 1958.

1 Ex-U.S.S.R. "M V" Class

Displacement:	350 tons *surface*; 420 tons *submerged*
Dimensions:	167½×16×12 feet
Guns:	1—45 mm. A.A., 1 M.G.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 1,000=13 kts., *surface*. Electric motors. H.P.: 800=10 kts. submerged
Radius:	4,000 miles at 8½ kts. *surface*, 100 miles at 5 kts., *submerged*
Complement:	24

Notes
Coastal submarine of the "M V" type, launched in 1950, and transferred from the Soviet Navy to the Egyptian Navy in June 1957.

FLEET MINESWEEPERS

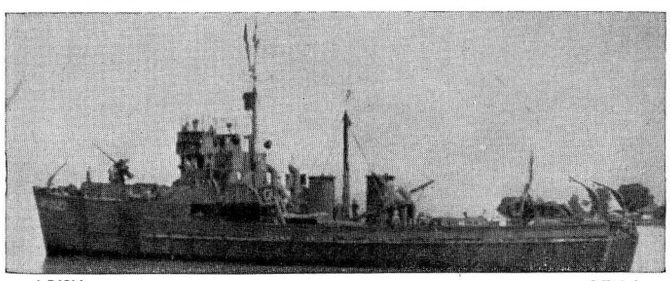
6 Ex-U.S.S.R. "T 43" Type

BAHAIRA **CHARKIEH** **GHARBIA** **MINIYA**

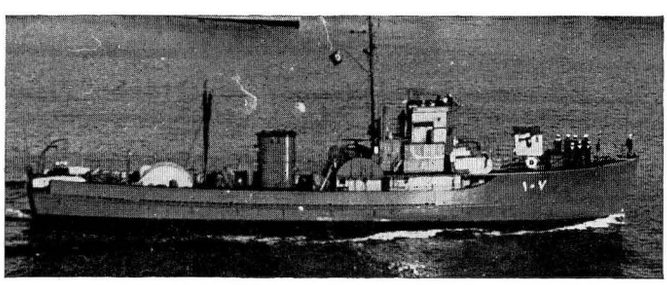
Displacement:	410 tons *standard* (530 tons *full load*)
Dimensions:	200×27½×9 feet
Guns:	4—37 mm. AA.
Machinery:	Diesel=18 kts.

Notes
Four reported to have been transferred from the Soviet Navy and delivered to Egypt in 1956, and two others later.

COASTAL MINESWEEPERS



ARISH *Official*



DARFOUR 1951, *A. & J. Pavia*

8 Ex-U.S. BYMS Type

ARISH (ex-*BYMS* 2028)
DARFOUR (ex-*BYMS* 2041)
KAISARIA (ex-*BYMS* 2075)
KORDOFAN (ex-*BYMS* 2212)
MALEK FUAD (ex-*BYMS* 2035)
NAHARIA (ex-*BYMS* 2069)
RAFAH (ex-*BYMS* 2149)
TOR (ex-*BYMS* 2175)

Displacement:	215 tons *standard* (270 tons *full load*)
Dimensions:	136 (*o.a.*)×24½×6 feet
Guns:	1—3 inch (except *Rafar* and *Tor*), 2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 1,000=13 kts.
Oil fuel:	16 tons

Notes
All single-funnelled except *Arish*, which has 2 funnels as shown. One named *Gaza* (ex-*BYMS* 2013) was lost on 26 July 1950, as a result of fuel-tank explosion off Mersa Matruth.

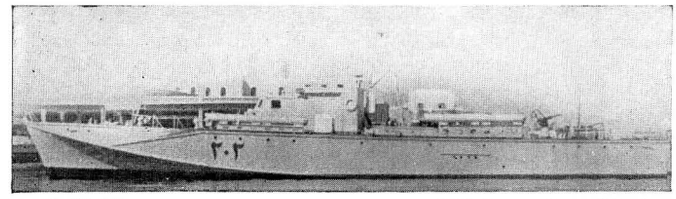
TANK LANDING CRAFT

No. 1	**No. 4**	**No. 7**	**No. 10**	**No. 13**	**No. 17**
No. 2	**No. 5**	**No. 8**	**No. 11**	**No. 14**	**No. 18**
No. 3	**No. 6**	**No. 9**	**No. 12**	**No. 16**	**No. 19**

Displacement:	22 tons *light* (35 tons *loaded*)
Machinery:	Speed=11 kts.

Notes
Of *LCM* type. (The tank landing ship *Aka* (ex-LST 178) was sunk as a block-ship near Lake Timsah in the Suez Canal on 1 Nov., 1956.)

MOTOR TORPEDO BOATS



EL NASER 1955, *Egyptian Navy, Official*

2 Ex-British "D" Type

EL NASER **EL ZAFER**

Displacement:	100 tons
Dimensions:	115×21½×5 feet
Guns:	Several light AA.
Tubes:	4—18 inch tubes
Machinery:	4 Packard engines. B.H.P.: 5,000=27·5 kts.
Complement:	30

Notes
Fairmile "D" type. Acquired from Great Britain. Reported tc be earmarked for disposal.

40 Ex-Russian "PA" Type

Displacement:	50 tons
Dimensions:	85½×20×6 feet
Guns:	4—25 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed=42 kts.

Notes
The first twelve boats were reported to have arrived at Alexandria on 19 Apr. 1956. Two E-boats were destroyed by British naval aircraft on 4 Nov. 1956.

6 Ex-Yugoslavian Type

Displacement:	56 tons *full load*
Dimensions:	78×20⅔×5½ feet
Guns:	1—40 mm. AA.
Tubes:	4
Machinery:	3 Packard motors. 3 shafts. B.H.P.: 4,500=35 kts.
Complement:	17

Notes
Purchased from Yugoslavia in 1956. Similar to U.S. Higgins boats. May be new, copied from U.S. boats, or may be old U.S. boats reconditioned.

MOTOR LAUNCHES

3 Ex-British "B" Type

HAMZA (ex-*ML* 134) **SAB EL BAHR** **SAKER EL BAHAR**

Displacement:	65 tons
Dimensions:	112×18½×4⅔ (*max*). feet
Guns:	1—40 mm., 2—20 mm. AA.
Machinery:	2 Hall-Scott Defender engines. 2 shafts. B.H.P.: 1,200=19 kts.

Notes
Fairmile "B" Type. Acquired from Great Britain. Reported that there are now only three Fairmile motor launches in the Egyptian Navy. These are said to be Nos. 251, 252 and 253. Two reported to have been sunk.

TRANSPORT

EL QUSEIR (ex-*El Amira Fawzia*)

Displacement:	2,640 tons
Dimensions:	275×36×14 feet
Guns:	2—3 pdr.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,130=14 kts.
Boilers:	2 S.E. (working pressure, 180 lb.). Oil fuel
Complement:	79

Notes
Built by Swan, Hunter & Wigham Richardson, Ltd., Wallsend. Launched on 8 July 1929. Mercantile type. Fitted as transport for 400 men and 40 horses. Normally employed on coasting service carrying passengers. Pennant No. 91.

YACHTS

EL HORRIA (ex-*Mahroussa*)

Displacement:	4,561 tons
Dimensions:	400 (*pp.*), 420 (*w.l.*) 477⅝ (*o.a.*)×42⅔×17¼ feet
Machinery:	3 Parsons turbines. 3 shafts. S.H.P.: 5,500=16 kts.
Boilers:	5 main and 1 auxiliary Inglis multi-tubular
Oil fuel:	346 tons
Complement:	179+59 midshipmen

Notes
Built of iron by Samuda Bros., Poplar. Launched in 1865. Reconstructed by A. & J. Inglis, Glasgow, and re-boilered 1905, and refitted in 1946-47 at Malta Dockyard. Reconstructed 1949-50 at Odero-Terni, Muggiano, at a cost of over £1,250,000. Former Royal Yacht. Offered for sale in 1954, but visited Great Britain as a midshipmen's training ship, May-June, 1955.

NTISAR (ex-*Fakhr el Bihar*)
Displacement: 1,069 tons

Notes
The British Admiralty tanker *Eaglesdale* was purchased by Misr Tankers Limited, of Cairo, in Dec. 1959.

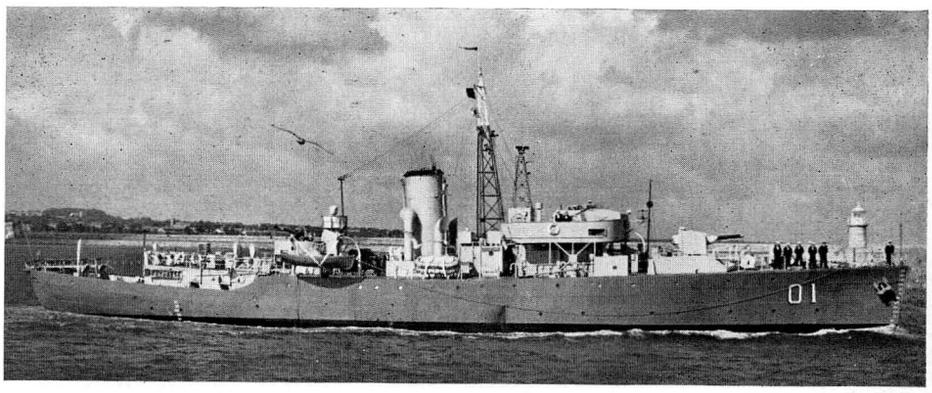
EIRE

FRIGATES (*Corvettes*)

3 Ex-British " Flower " Class

CLIONA (ex-H.M.S. *Bellwort*) **MAEV** (ex-H.M.S. *Oxlip*)
MACHA (ex-H.M.S. *Borage*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ feet
Guns:	1—4 inch 1—2 pdr., 2—20 mm. AA.
A/S weapons:	Hedgehog, 2 D.C. racks
Machinery:	Triple expansion. I.H.P.: 2,750 = 16 kts. (designed), sea speed 14 kts.
Boilers:	2 S.E.
Oil fuel:	230 tons
Complement:	78



MACHA — 1959, *Official*

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
03	*Cliona*	17 Sep. 1940	11 Aug. 1941	26 Nov. 1941
01	*Macha*	21 Nov. 1940	6 Nov. 1941	29 Apr. 1942
02	*Maev*	9 Dec. 1940	28 Aug. 1941	28 Dec. 1941

Notes
Formerly " Flower " class corvettes re-rated as frigates. Purchased from Great Britain in 1946. The lattice mast was stepped in 1953. *Cliona* and *Macha* were built by George Brown & Co. (Marine) Ltd., Greenock and *Maev* by A. & J. Inglis Ltd., Pointhouse, Glasgow. *Cliona* and *Maev* underwent structural alterations in 1958 and 1959 respectively.

TENDERS

JOHN ADAMS

Measurement:	94 tons *gross*
Dimensions:	85 × 18½ × 7 feet
Machinery:	Diesel. B.H.P.: 125 = 8 kts.

Notes
Built by Richard Dunston, Ltd., Thorne, Doncaster, Yorks. Launched in 1934.

GENERAL McHARDY

Measurement:	100 tons *gross*
Dimensions:	76½ × 18 × 9½ feet
Machinery:	Compound reciprocating. I.H.P.: 200 = 9 kts.

Notes
Built by Philip & Son, Ltd., Dartmouth, Devon. Launched in 1928.

WYNDHAM

Measurement:	93 tons *gross*
Dimensions:	85 × 16½ × 3 feet
Machinery:	Compound reciprocating. I.H.P.: 200 = 9 kts.

Notes
Built by Cox, Flamouth. Launched in 1903.

EL SALVADOR

Administration

Commander of Salvador Navy:
Major Francisco Cañas

Ships

Two small patrol craft have been incorporated into El Salvador Navy

Personnel

1960: 100 officers and ratings
There is also a marine corps

ETHIOPIA

Administration

The Imperial Ethiopian Navy is organised as one of the three Armed Services under the Chief of Staff Imperial Armed Forces. The Deputy Commander of the Imperial Ethiopian Navy has his Naval Headquarters in Addis Ababa.

Deputy Commander of the Imperial Ethiopian Navy:
Commander H.I.H. Prince Alexander Desta

Chief of Staff:
Commodore L. R. Lund, R.No. N.

Imperial Ethiopian Navy

The Imperial Ethiopian Navy was founded in 1955. It is being trained by Norwegian officers.

At " Haile Selassie I " Naval Base in Massawa are the Naval College, established in 1956, the Naval N.C.O. School, established in 1957, and Ratings' Training Establishment. Workshops and other Base facilities are under construction. It is officially reported that plans for more ships have been delayed.

Personnel

It is officially stated that there has been a considerable increase in the numbers of personnel, but the following figures were reported in 1959:

35 Lieutenants and Sub-Lieutenants

40 Midshipmen and Cadets under training

80 N.C.O.s and Apprentices under training

150 Junior naval ratings

PATROL BOATS



WVP 95304 — *U.S.C.G. Official*

WVP 95304 **WVP 9531**

Displacement:	101 tons
Dimensions:	95 (*o.a.*) × 19 × 5 feet
Guns:	3—20 mm. AA.
Machinery:	4 diesels, 2 shafts. B.H.P.: 2,200 = 21 kts.
Radius.	1,500 miles at cruising speed
Complement:	15

Notes
Former U.S.C.G. Cutters. Steel-hulled. Twin screwed. Transferred to the Imperial Ethiopian Navy from the U.S. Navy under the Mutual Defense Assistance Program in 1958.

IMPERIAL YACHT

BRIONI

Displacement:	112 tons
Dimensions:	103¾ × 16½ × 10 feet
Machinery:	2 Maybach diesels. B.H.P.: 2,800 = 20 kts.

Notes
Handed over to His Imperial Majesty as a gift from Marshal Tito in December 1955. Modern streamlined motor-driven yacht with 1,300—1,500 h.p. from each engine.

FINLAND

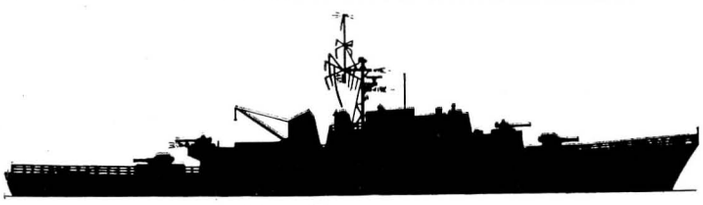
Personnel
1960: 1,200 officers and ratings

Naval Attache in London:
Captain M. H. Salminen, F.N.

The Finnish Navy is limited by treaty with Russia to 10,000 tons and 4,500 personnel, including Coast Guard and Coast Artillery. Submarines and motor torpedo boats are prohibited.

Mercantile Marine
Lloyd's Register of Shipping:
337 vessels of 744,291 tons *gross*

FRIGATE TRAINING SHIP (*Fregatti Koulu-ja*)



New Construction

Displacement:	*circa* 1,000 tons
Dimensions:	256 × 31½ × 10 feet
Guns:	2—3 inch or 4·1 inch, 2—40 mm. AA.
Machinery:	S.H.P.: 4,000 = 18 kts.
Complement:	110

Notes
A new frigate to be built in the near future. Designed as a training ship.

COASTAL MINELAYERS (*Miinalaivat*)



KEIHÄSSALMI 1960, *Finnish Navy, Official*

KEIHÄSSALMI

Displacement:	360 tons (officially revised figure)
Dimensions:	183¾ × 25¼ × 5 feet
Guns:	2—40 mm. AA.; 2—20 mm. AA.
Mines:	100
Machinery:	2 M.A.N. diesels. B.H.P.: 1,600 = 15 kts.
Complement:	60

Notes
A coastal minelayer of improved "Ruotsinsalmi" type built at Valmet Oy Shipyard, Helsinki under contract dated June 1955. Launched on 16 Mar 1957



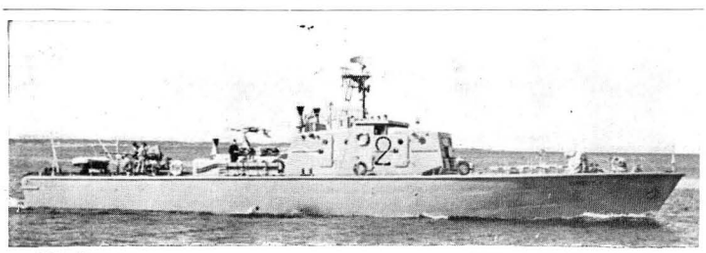
RUOTSINSALMI 1957, *Official*

RUOTSINSALMI

Displacement:	310 tons (officially revised figure)
Dimensions:	164½ × 26 × 6 feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
Mines:	100
Machinery:	2 Rateau diesels. B.H.P.: 1,120 = 15 kts.

Notes
Builders, Hietalahden. Laid down in 1937. Launched in May 1940. Completed in Feb. 1941.

INSHORE MINESWEEPERS (*Raivaajat*)



RYMÄTTYLA 1960, *Finnish Navy, Official*

5 "R" Class

RAISIO RIHTNIEMI RÖYTTÄ RUISSALO RYMÄTTYLÄ

Displacement:	110 tons (officially revised figure), 130 tons *full load*
Dimensions:	108⅜ × 18½ × 5 feet
Guns:	1—40 mm. Bofors, 1—20 mm. Masden, 1 Squid Mortar
Machinery:	2 Mercedes-Benz diesels. B.H.P.: 1,400 = 17kts.

Notes
Rihtniemi and *Rymättylä* were ordered in July 1955 and launched in 1956. Built by Rauma-Repelo Oy, Shipyard, Rauma, Finland. Delivered on 20 May 1957. Variable pitch propellers. *Raisio, Röyttä* and *Ruissalo* were built by Laivateollisuus, Turku, in 1959.

FAST PATROL BOATS (*Nopeat vartioveneet*)

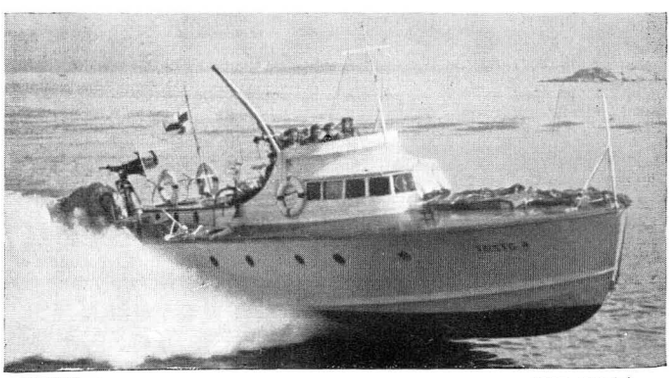


VASAMA 1957, *Official*

VASAMA 1 **VASAMA 2**

Displacement:	70 tons
Dimensions:	67 (*pp.*), 71½ (*o.a.*) × 19½ × 6 feet
Armament:	2—40 mm. AA (as gunboat)
Machinery:	2 Napier Deltic diesels. B.H.P.: 5,000 = 42 kts.
Complement:	13

Notes
Two new fast patrol boats of the British "Dark" class built by Saunders Roe (Anglesey) Ltd., Beaumaris, England, in 1955-57.



TAISTO 4 1957, *Official*

TAISTO 2 **TAISTO 4** **TAISTO 6** **TAISTO 8**
TAISTO 3 **TAISTO 5** **TAISTO 7**

Displacement:	22 tons
Dimensions:	59 × 15½ × 5 feet
Guns:	1—40 mm., 1—20 mm.
Machinery:	Speed: 42 kts.

Notes
All launched in 1943. Ex-M 2-8. Designed and built under Italian licence by Turun Veneveistämo, Finland.



HURJA 4 1957, *Official*

HURJA 1 **HURJA 2** **HURJA 3** **HURJA 4** **HURJA 5**

Displacement:	20 tons
Dimensions:	55¾ × 14 × 4 feet
Guns:	1—40 mm., 1—20 mm.
Machinery:	2 Isotta Fraschini engines. B.H.P.: 1,500 = 40 kts.

Notes
Former Italian fast patrol boats. All designed and built by Cantieri, Baglietto Varazze, Italy, in 1941.

JUSSI 1 **JUSSI 2** **JUSSI 3** **JUSSI 4**

Displacement:	22 tons
Dimensions:	62½ × 15¾ × 4⅔ feet
Guns:	1—40 mm., 1—20 mm.
Machinery:	Speed: 35 kts.

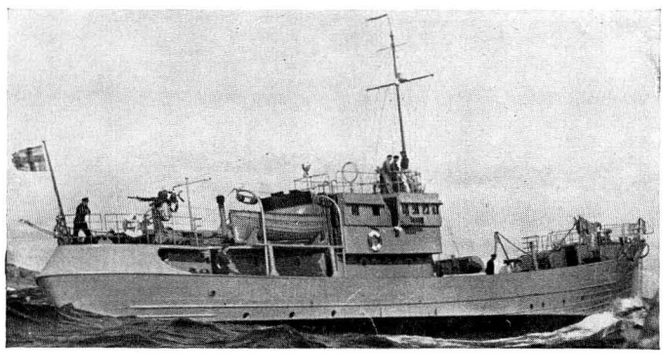
Notes
All launched in 1939. These vessels were formerly MAS 526, 527, 528 and 529.

COAST GUARD PATROL VESSELS (*Vartioalukset*)

UISKO

Displacement: 370 tons
Dimensions: 130×22×13 feet
Machinery: B.H.P.: 1,800=14 kts.

Notes
A new coast guard patrol vessel built by Valmet Oy, Helsinki, in 1959.



TURSAS *Added* 1954, *Official*

TURSAS

Displacement: 360 tons
Dimensions: 131½×23½×14½ feet
Guns: 1—3 inch, 1—40 mm AA., 2—20 mm. AA.
Machinery: Diesel. B.H.P.: 620=12 kts.

Notes
Built by Crichton-Vulkan. Launched in 1933. Coast Guard vessel under the Ministry of the Interior

AURA

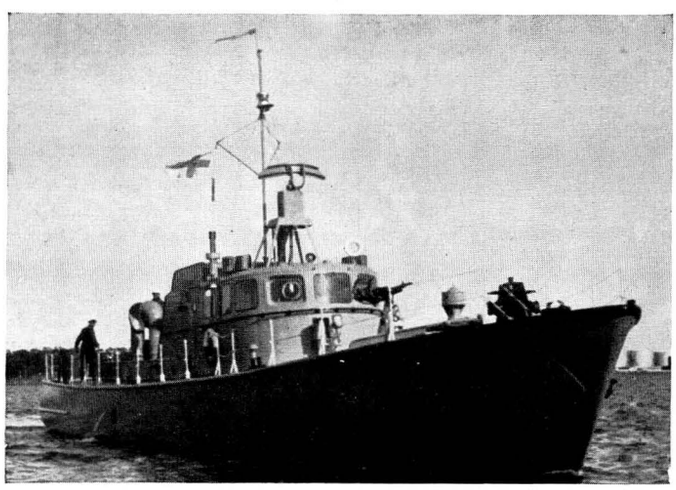
Displacement: 350 tons
Dimensions: 128×23×11½ feet
Guns: 1—3 inch, 2—20 mm. AA.
Machinery: Triple expansion. I H.P.: 700=10 kts.

Notes
Launched in 1907. This vessel belongs to the Coast Guard, which is under the Ministry of the Interior.

Recent Disposals
The *Merikotka* was officially deleted from the list in 1960.

Recent Disposals (Coastal Minesweepers)
Of the four ex-U.S. BYMS type coastal minesweepers, *Iammenpää* and *Vahterpää* were sold for scrap in 1958, *Purunpää* was discarded as unfit for further service in 1959, and *Katanpää* was scrapped in 1960.

Motor Patrol Boats (*Vartiomoottoriveneet*)



KOSKELO 1957, *Official*

7 "Koskelo" Class

KAAKKURI **KOSKELO** **KUOVI** **TELKKÄ**
KIISKI **KUIKKA** **KURKI**

Displacement: 75 tons *standard* (97 tons *full load*)
Dimensions: 96½×16½×3½ feet
Guns: 2—20 mm. AA.
Machinery: 2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 1,000=16 kts.
Complement: 8

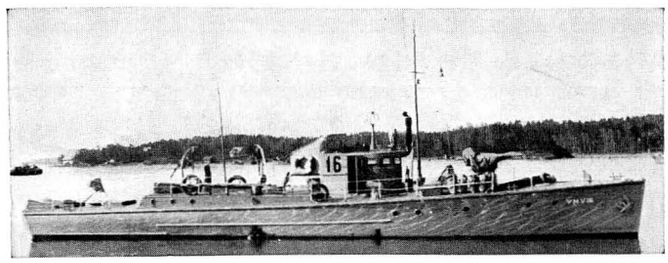
Notes
Built of steel and strengthened against ice. *Koskelo* and *Kuikka* were completed in 1956. Remaining five were completed in 1958-59.

VMV 19 VMV 20

Displacement: 35 tons (officially revised figure)
Dimensions: 69×13½×4 feet
Guns: 1—20 mm.
Machinery: Speed: 11 kts.

Notes
Built in Finland. Launched in 1943. Ex-Motor launches *SP* 41, 42. *VM* 18 (ex-*SP* 1) was stricken from the list in 1958.

Coast Guard Patrol Vessels—*continued*



VMV 16 *Official*

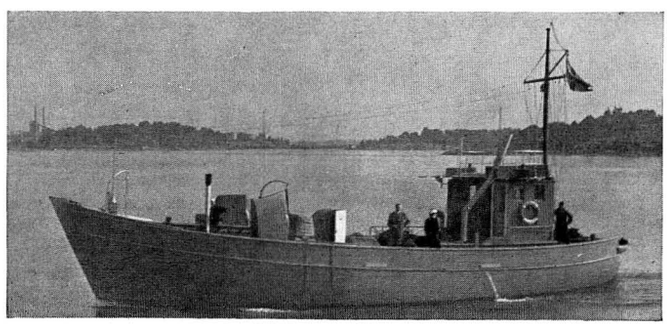
VMV 9 **VMV 11** **VMV 13** **VMV 15** **VMV 16**

Displacement: 35 tons (officially revised figure)
Dimensions: 82×13¾×3¼ feet
Guns: 1—20 mm.
Machinery: Semi-Diesel. B.H.P.: 1,220=25 kts.
Complement: 9

Notes
Built in Finland. Launched in 1935. All the above *VMSs* belong to the Coast Guard which is under the Ministry of the Interior.

Recent Disposals
VMV 1 and *VMV* 2 were sold in 1952. *VMV* 5 was scrapped in 1958. *VMV* 6 will be scrapped in 1960, it is officially stated.

MOTOR MINESWEEPING BOATS (*Raivaajat*)



KALLANPÄÄ 1955, *Official*

KALLANPÄÄ

Displacement: 50 tons (officially revised figure)
Dimensions: 65⅝×16⅝×3¼ feet
Guns: 1—20 mm.
Speed: 9 kts.

Notes
Built in Denmark. Launched in 1944. Fitted for magnetic minesweeping. Sister ship *Ajonpää* was scrapped in 1959.

13 "Kuha" Class

KUHA 2 **KUHA 8** **KUHA 12** **KUHA 15** **KUHA 18**
KUHA 5 **KUHA 10** **KUHA 13** **KUHA 16** **KUHA 17**
KUHA 7 **KUHA 11** **KUHA 14**

Displacement: 18 tons
Dimensions: 56×12½×5 feet
Guns: 1—20 mm.
Machiner Speed: 9 kts.

Notes
Built in Finland. Launched during 1941-45. *Kuha* 1, *Kuha* 4 and *Kuha* 9 were scrapped in 1959-60.



AHVEN 2 1946, *Official*

6 "Ahven" Class

AHVEN 1 **AHVEN 2** **AHVEN 3** **AHVEN 5**
AHVEN 4 **AHVEN 6**

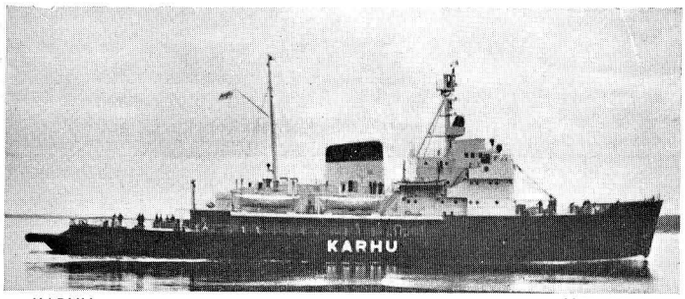
Displacement: 17 tons
Dimensions: 56½×12×4½ feet
Machinery: H.P.: 60=10·5 kts.
Complement: 8

Notes
Built at Turun Veneveistamo Yard. Launched in 1936-37.

ICEBREAKERS (*Jäänmurtajat*)

New Construction

The Finnish Navy is to build a new icebreaker which will be a larger vessel of the " Voima " type. Construction is expected to be started in 1961.



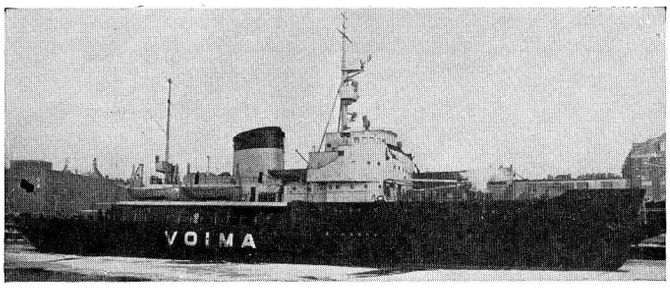
KARHU 1959, *Official*

KARHU **MURTAJA** **SAMPO**

Displacement:	3,370 tons (officially revised figure)
Dimensions:	243¼ × 57 × 20 feet
Machinery:	Diesel-electric. 4 shafts. B.H.P.: 7,500 = 16 kts.

Notes

Built by Wärtsilä-yhtymä O/Y Hietalahden Laiva telakka, Helsinki. *Karhu* was launched on 22 Oct. 1957, and completed at the end of 1958. *Murtaja* was launched on 23 Sep. 1958. A third ship of this class, *Sampo*, is scheduled to be delivered in 1960.



VOIMA 1954, *Finnish Navy, Official*

VOIMA

Displacement:	4,200 tons (officially revised figure)
Dimensions:	254⅜ (*w.l.*), 274 (*o.a.*) × 63⅔ (61½ *w.l.*) × 20⅓ feet
Machinery:	Diesels with electric drive. 4 shafts. B.H.P.: 14,000 = 16½ kts.
Oil fuel:	740 tons
Complement:	73

Notes

Built by Hietalahden telakka. Launched and completed in 1953. Built for deep-sea work. Two propellers forward and aft. Transferred to the Board of Navigation in 1956.



SISU 1940, *Official*

SISU

Displacement:	2,000 tons
Dimensions:	194⅜ (*w.l.*), 210½ (*o.a.*) × 46½ × 16⅜ feet
Guns:	2—3·9 inch AA.
Machinery:	3 sets Atlas Polar Diesels with electric drive. 2 shafts and a bow propeller. H.P.: 4,000 = 16 kts.
Complement:	100

Notes

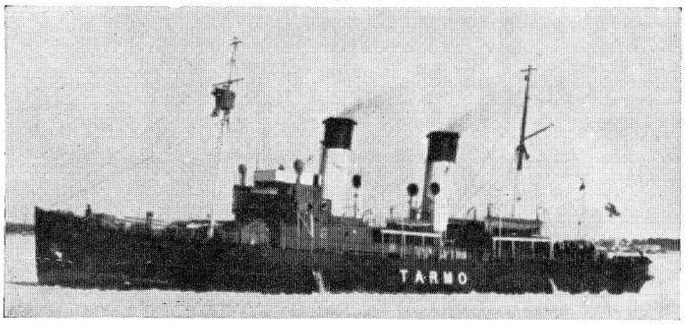
Built by Hietalahden telakka. Launched on 24 Sep. 1938.

OTSO

Displacement:	900 tons
Dimensions:	134½ (*pp.*), 144⅓ (*o.a.*) × 37½ × 16½ feet
Machinery:	Triple expansion, with bow propeller. I.H.P.: 1,860 = 13 kts.
Oil fuel:	60 tons

Notes

Launched in 1936. Belongs to the town of Helsinki. Photograph in the 1953-54 and earlier editions.



TARMO 1958, *Finnish Navy, Official*

TARMO (ex-*Sampo II*)

Displacement:	2,400 tons (officially revised figure)
Dimensions:	210½ (*w.l.*), 220 (*o.a.*) × 47 × 18½ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 3,850 = 12 kts.
Complement:	43

Notes

Built by Armstrong & Co. Ltd., Newcastle-on-Tyne. Launched in 1907

Icebreakers—*continued*

SAMPO

Displacement:	1,850 tons
Dimensions:	202 × 43 × 18¼ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 3,850 = 12 kts.
Complement:	43

Notes

Built by Armstrong & Co. Ltd., Newcastle-on-Tyne. Launched in 1898. This ship will be scrapped in 1960 when a new icebreaker of the same name is completed.

General Notes

All the above icebreakers belong to the Board of Navigation, except the *Otso*, which belongs to the town of Helsinki.

Recent Disposals

The old and less powerful icebreakers *Apu* and *Murtaja* were scrapped in Spring 1959 and 1958, respectively.

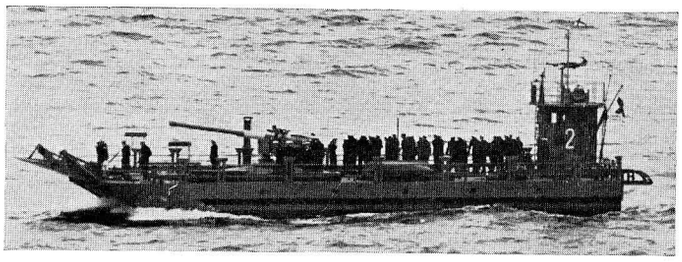
LANDING CRAFT (*Kuljetusalukset*)

KALA 1 **KALA 2** **KALA 3** **KALA 4** **KALA 5**

Displacement:	60 tons

Notes

Launched in 1956. Completed in 1959, of LCU (utility landing craft) type.



SEILI 1959, *Official*

LONNA **SEILI**

Displacement:	180 to 200 tons
Dimensions:	100 feet length
Guns:	1—4·1 inch (105 mm.) Cmex. Obuchov
Machinery:	Speed = 10 kts.

Notes

Former German MFP type landing craft converted and armoured. Launched in 1942.

MOTOR LAUNCHES

NV 1 **NV 3** **NV 5** **NV 7** **NV 9**
NV 2 **NV 4** **NV 6** **NV 8** **NV 10**

Notes

New Finnish motor boats. First series *NV* 1-5 built since 1956. Second series *NV* 6-10 under construction.

TRANSPORT CRAFT (*Kuljetusalukset*)

3 " Pansio " Class

PANSIO (1947) **PORKKALA** (1940) **PUKKIO** (1929)

Displacement:	162 tons
Dimensions:	92 × 21½ × 9 feet
Guns:	1—40 mm., 1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 300 = 10 kts.

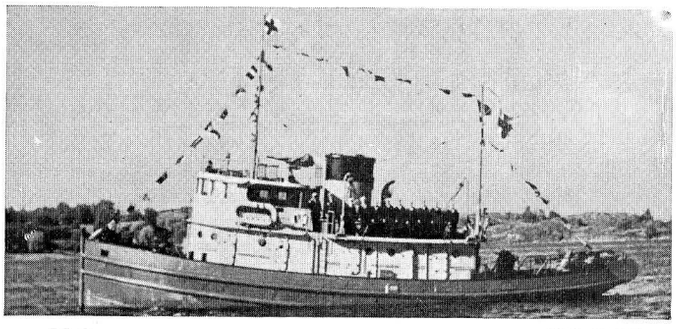
Notes

Built at Naval Dockyard, Helsinki. Launch dates above. Vessels of the tug type used as transports, minesweeping tenders, minelayers and patrol vessels. Can carry 20 mines.

Training Ship Notes

It was officially stated in 1960 that the training ship *Suomen Joutsen* (ex-*Oldenburgh*, ex-*Laennec*) has been converted into a stationary seamen's school ship, and sold to the Finnish Mercantile School.

TUGS (*Hinaajat*)



DR 2 1953, *Official*

PIRTTISAARI (ex-*DR* 7) **PYHTÄÄ** (ex-*DR* 2) **DR 10**

Displacement:	106 tons
Dimensions:	69 × 20 × 8½ feet
Guns:	1—20 mm.
Speed:	8 kts.

Notes

Former United States Army Tugs. Launched in 1943-44. General purpose vessels used as minesweepers, minelayers, patrol vessels, tenders, tugs or personnel transports.

DR 2 and *DR* 7 were adapted as the Coast Artillery transports *Pyhtää* and *Pirttisaari* in 1958 and 1959, respectively.

FRANCE

Administration

Chief of the Naval Staff:
Amiral Cabanier

Assistant Chief of Naval Staff: (Major General de la Marine).
Vice-Amiral d'Escadre Monaque

Assistant Chief of Naval Staff:
Contre-Amiral Ponchardier.

Naval Attaché in London:
Contre-Amiral V. B. Marchal

Personnel

1960: 5,000 officers and 63,000 men

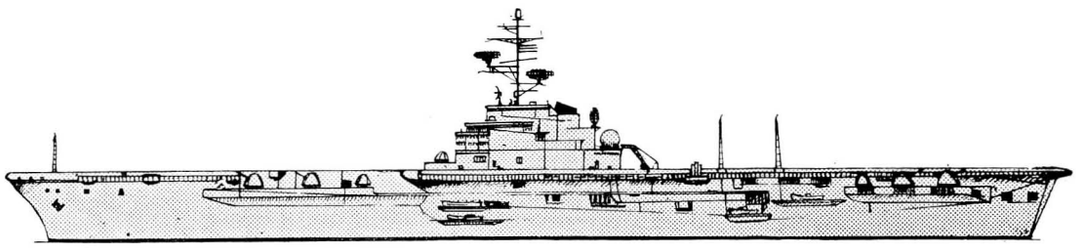
Mercantile Marine

Lloyd's Register of Shipping:
1,409 vessels of 4,538,370 tons *gross*

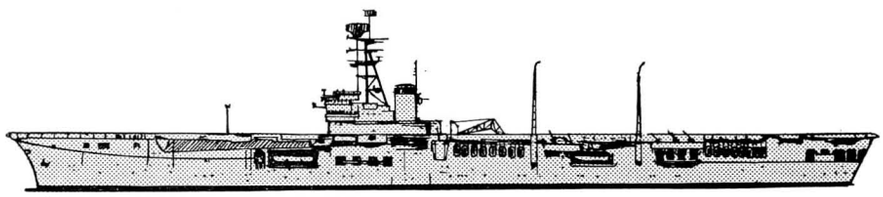
Silhouettes

Scale: 150 feet = 1 inch

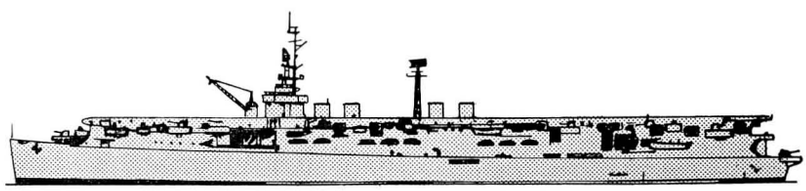
Aircraft Carriers



CLEMENCEAU .

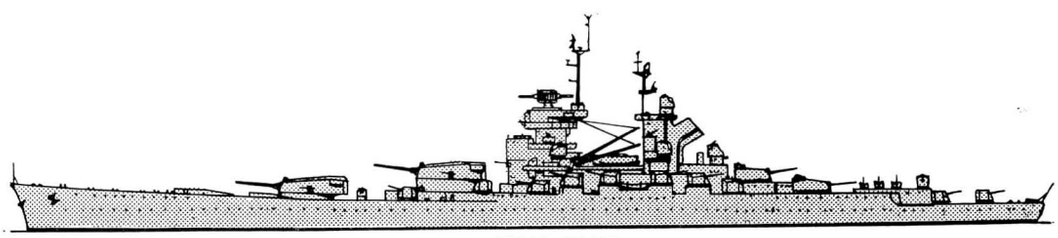


ARROMANCHES

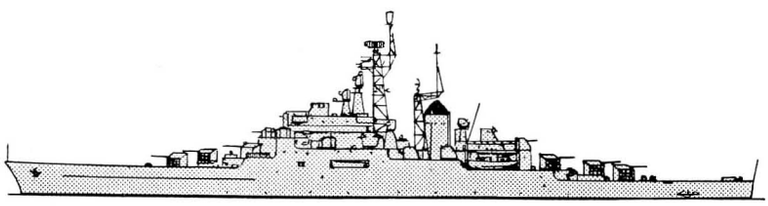


BOIS BELLEAU, LA FAYETTE

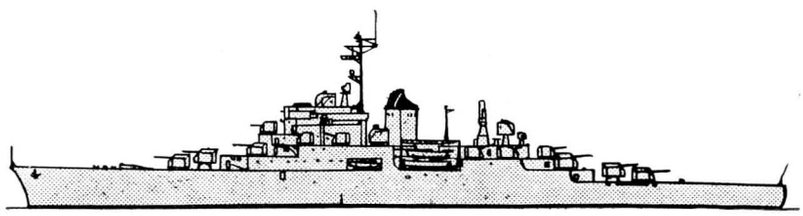
Battleship Cruisers



JEAN BART



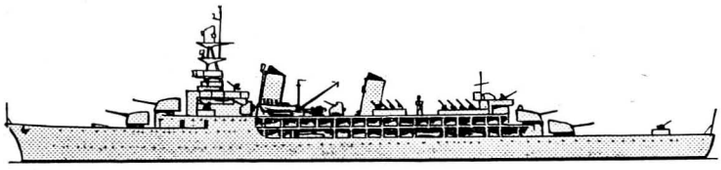
COLBERT



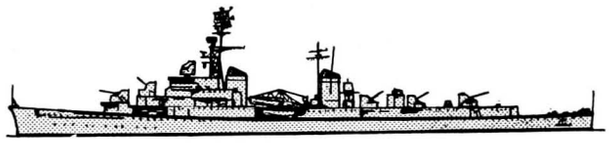
DE GRASSE

Silhouettes—*continued*

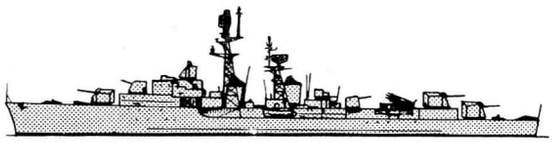
Scale: 150 ft.=1 inch



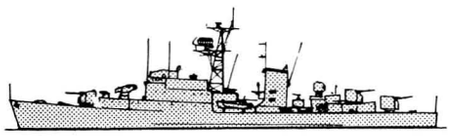
JEANNE D'ARC (training cruiser)



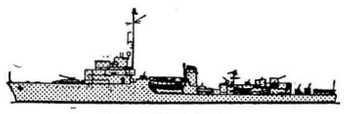
CHATEAURENAULT, GUICHEN



FORBIN (bridge differs)



COMMANDANT RIVIÈRE



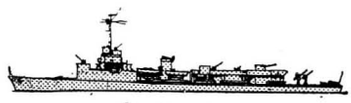
CHAMOIS *Type*



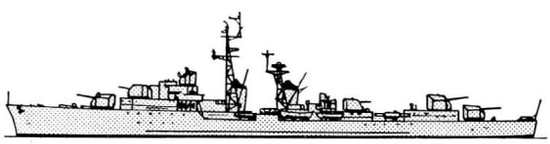
DUPERRÉ *Class.* T 53 R Type



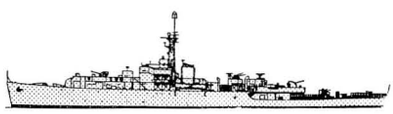
L'AVENTURE *Type*



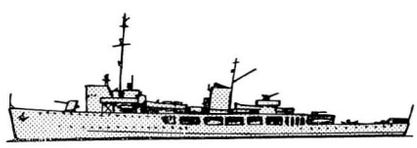
ÉLAN *Class*



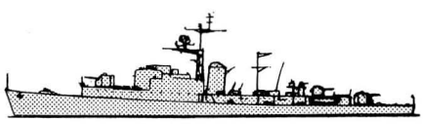
SURCOUF *Class.* T 47 Type



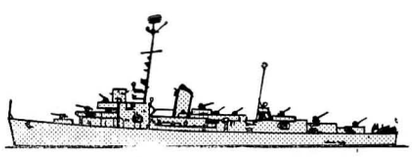
LA CONFIANCE *Type*



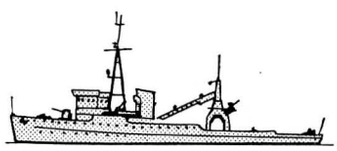
BEAUTEMPS-BEAUPRÉ *Class*



L'ALSACIEN



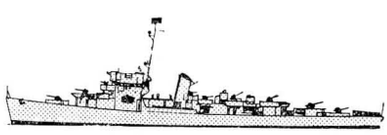
HOVA *Type*



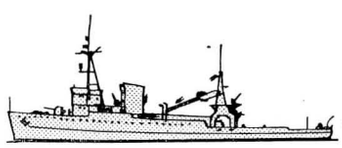
PAUL GOFFENY



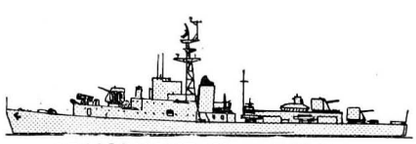
L'AGENAIS



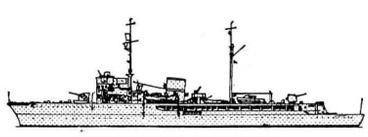
SÉNÉGALAIS *Class*



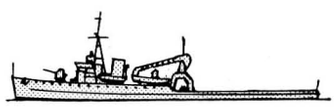
COMMANDANT ROBERT GIRAUD



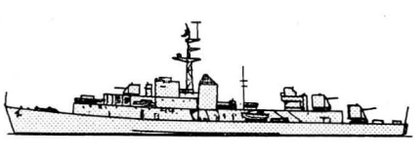
LE NORMAND *Class.* E 52 Type



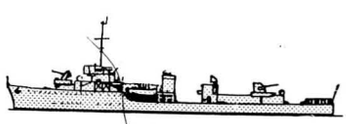
FRANCIS-GARNIER



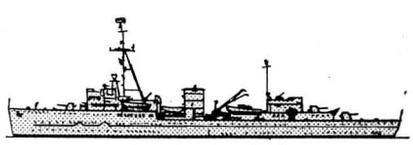
MARCEL LE BIHAN



LE CORSE *Class.* E 50 Type



BISSON *Type*



GUSTAVE ZÉDÉ

PENNANT NUMBERS

CLASSIFICATION.

D = Destroyers (*Escorteurs d'Escadre* and *Escorteurs Rapides*)
S = Submarines (*Sous-marins*)
P = Patrol Vessels (*Patrouilleurs*)
A = Auxiliaries
F = Frigates (*Escorteurs* and *Avisos*)
M = Minesweepers (*Drageurs*)
L = Landing Ships

D Flag Superior:

606 Chateaurenault
607 Guichen
621 Surcouf
622 Kersaint
623 Cassard
624 Bouvet
625 Dupétit Thouars
626 Chevalier Paul
627 Maillé Brézé
628 Vauquelin
629 D'Estrées
630 Du Chayla
631 Casabianca
632 Guépratte
633 Duperré
634 La Bourdonnais
635 Forbin
636 Tartu
637 Jauréguiberry
638 La Galissonière

F Flag Superior:

701 Algérien
702 Sénégalais
707 L'Aventure
708 La Surprise
709 Ailette
710 Croix de Lorraine
711 La Confiance
718 Kabyle
719 Bambara
721 Touareg
722 Soudanais
724 Malgache
725 Victor Schoelcher
726 Commandant Bory
727 Amiral Charner
728 Doudart de la Grée
729 Balny
730 Francis-Garnier
733 Cdt. Riviere
734 Chamois
736 Gazelle
737 Bisson
738 Cdt. Amyot d'Inville
739 Cdt. Pimodan
741 Cdt. Delage
742 Cdt. Dominé
743 Cdt. Duboc
747 La Moqueuse
750 La Pérouse
751 Beautemps Beaupré
752 Amiral Mouchez
754 O.E. Paul Goffeny
755 Cdt. Robert Giraud
761 Le Corse
762 Le Brestois
763 Le Boulonnais

F Flag Superior—*continued*

764 Le Bordelais
765 Le Normand
766 Le Picard
767 Le Gascon
768 Le Lorrain
769 Le Bourguignon
770 Le Champenois
771 Le Savoyard
772 Le Breton
773 Le Basque
774 L'Agenais
775 Le Béarnais
776 L'Alsacien
777 Le Provencal
778 Le Vendéen

S Flag Superior

601 L'Andromède
603 L'Artemis
606 La Créole
607 L'Africaine
608 L'Astrée
609 Millé
610 Laubie
613 Roland Morillot
616 Saphir
631 Narval
632 Marsouin
633 Dauphin
634 Requin
635 Aréthuse
636 Argonaute
637 Espadon
638 Morse
639 Amazone
640 Ariane
641 Daphné
642 Diane
643 Doris
644 Eurydice
645 Flore
646 Galathée

P Flag Superior:

603 Goumier
604 Coutelas
606 Dague
608 Cimeterre
618 Fantasin
630 L'Intrepide
635 L'Ardent
637 L'Etourdi
638 L'Effronté
639 Le Frondeur
640 Le Fringant
641 Le Fougueux

P Flag Superior—*continued*

642 L'Opiniatre
643 L'Agile
644 L'Adroit
645 L'Alert
646 L'Attentif
647 L'Enjoué
648 Le Hardi
656 Marjolaine
658 Lotus
659 Tiaré

M Flag Superior:

612 Alençon
613 Berneval
614 Bir Hacheim
615 Cantho
616 Dompaire
617 Garigliano
618 Mytho
619 Vinh-long
620 Berlaimont
621 Origny
622 Autun
623 Baccarat
624 Colmar
638 Acacia
639 Acanthe
640 Aconit
641 Amarante
643 Asphodèle
644 Basilic
647 Clématite
649 Pimprenelle
650 Primevère
651 Genèt
659 Hortensia
661 Campanule
662 Héliotrope
663 Jasmin
664 Perce-Neige
665 Anémone
667 Ajonc
668 Azalée
669 Bégonia
670 Bleuet
671 Camélia
672 Chrysanthème
673 Coquelicot
674 Cyclamen
675 Eglantine
676 Gardenia
677 Giroflée
678 Glaieul
679 Glycine
680 Jacinthe
681 Laurier
682 Lilas
683 Liseron

M Flag Superior—*continued*

684 Lobelia
685 Magnolia
686 Marguerite
687 Mimosa
688 Muguet
693 Pavot
694 Pervenche
695 Pivoine
696 Renoncule
697 Réseda
701 Sirius
702 Rigel
703 Antarés
704 Algol
705 Aldebaran
706 Régulus
707 Véga
708 Castor
709 Pollux
710 Pégase
726 La Dunkerquoise
727 La Malouine
728 La Bayonnaise
729 La Paimpolaise
730 La Dieppoise
731 La Lorientaise
734 Croix du Sud
735 Etoile Polaire
736 Altair
737 Capricorne
740 Cassiopée
741 Eridan
742 Orion
743 Sagittaire
744 Achernar
745 Procyon
746 Arcturus
747 Bételgeuse
748 Persée
749 Phénix
750 Bellatrix
751 Denebola
752 Centaure
753 Fomalhaut
754 Canopus
755 Capella
756 Cephee
757 Verseau
758 Ariés
759 Lyre
765 Mercure

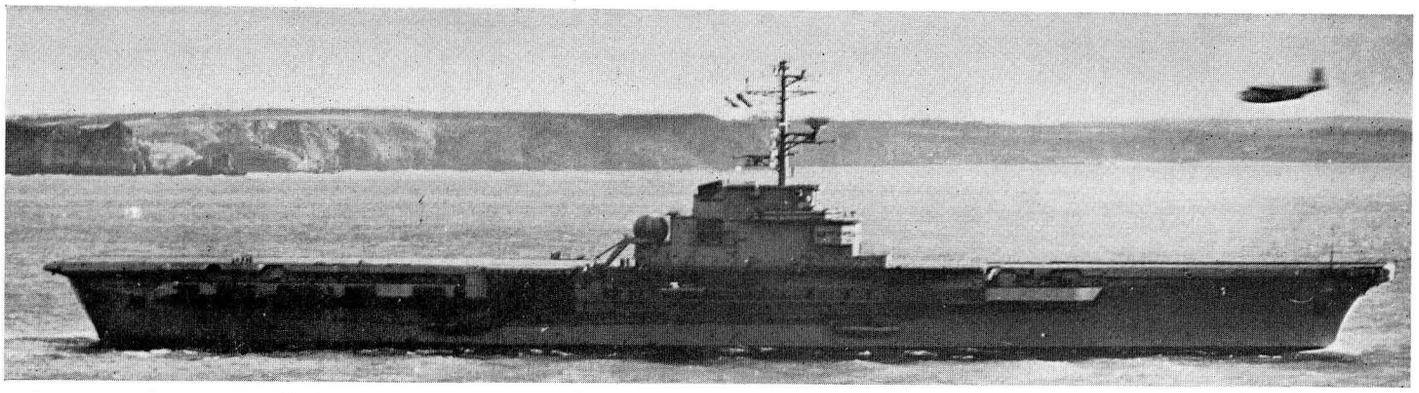
L Flag Superior

9001 Laita
9002 Orne
900[illegible] Rance
9005 Odet
9006 Chéliff

FRENCH CARRIER-BORNE AIRCRAFT

Name	*Maker*	*Type*	*Dimensions*	*Power Plant*	*Armament*	*Performance*
ETENDARD IV-M	Passault	Single-Seat Interceptor and Fighter-Bomber	Wing Span 31 ft. 6 in. Length 47 ft. 3 in.	One SNECMA Atar 8 turbojet	Two 30 mm. cannon. Bombs or missiles	Max. speed 700 m.p.h. at 36,000 ft. Range 370-800 miles
AQUILON (SEA VENOM)	Sud-Aviation	Single or Two-Seat All-Weather Fighter	Wing Span 42 ft. 10½ in. Folded 23 ft. Length 36 ft. 6 in.	One D.H. Ghost Mk. 48 turbojet	Four 20 mm. cannon. Eight rockets	Max. speed 600 m.p.h.
F4U-7 CORSAIR	Chance Vought	Single-Seat Fighter-Bomber	Wing Span 40 ft. 11¾ in. Folded 17 ft. Length 34 ft. 6½ in.	One Pratt & Whitney R-2800-18W Engine	Four 20 mm. cannon. Ten 5 in. rockets and two 1,000 — 1,600 lb. bombs	Max. speed over 450 m.p.h.
TBM-3 AVENGER	Grumman	Three-Seat Anti-Submarine Aircraft	Wing Span 54 ft. 2 in. Length 40 ft.	One Wright Cyclone R-2600 Engine	Four machine guns. One torpedo or four 500 lb. bombs. Eight rockets	Max. speed 262 m.p.h. Range 1,000 miles
Br 1050 ALIZÉ	Breguet	Three-Seat Anti-Submarine Aircraft	Wing Span 51 ft. 2 in. Folded 22 ft. 11 in. Length 45 ft. 6 in.	One Rolls-Royce Dart R. Da. 22 turboprop	One torpedo. Up to five depth charges. Six rockets or two missiles	Max. speed 292 m.p.h. Normal endurance 5 hr. 10 min.

AIRCRAFT CARRIERS



CLEMENCEAU (starboard broadside view) 1960, *French Navy, Official*

2 New Construction

	CLEMENCEAU (PA 54)	**FOCH** (PA 55)
Name:	*Clemenceau*	*Foch*
Pennant No.:	R 98	R 99
Builders:	Brest	Penhoët-Loire & Brest
Laid down:	Nov. 1955	Feb. 1957
Launched:	21 Dec. 1947	July 1959
Completion:	Trials pursued since 24 Nov. 1959	Trials scheduled to start July 1960

Displacement:	22,000 tons *standard* (27,307 tons *normal*, 30,000 tons *full load*)
Dimensions:	833½ (*pp.*), 845 (*o.a.*) × 96¼ (*hull*), 151 (*max.*) × 24⅝ feet
Guns:	8—3·9 inch (100 mm. automatic) AA. in single turrets and 30 mm.
Armour:	Flight deck, hull (over machinery spaces and magazines), island superstructure and bridges
Aircraft:	60, including jet aircraft
Catapults:	2 Mitchell-Brown steam, Mk. BS 4
Machinery:	Penhoët geared turbines. 2 shafts. S.H.P.: 126,000=32 kts.
Boilers:	6
Oil fuel:	4,000 tons
Radius:	7,500 miles at 18 kts., 4,800 miles at 24 kts.
Complement:	2,700 (including 179 officers)

General Notes

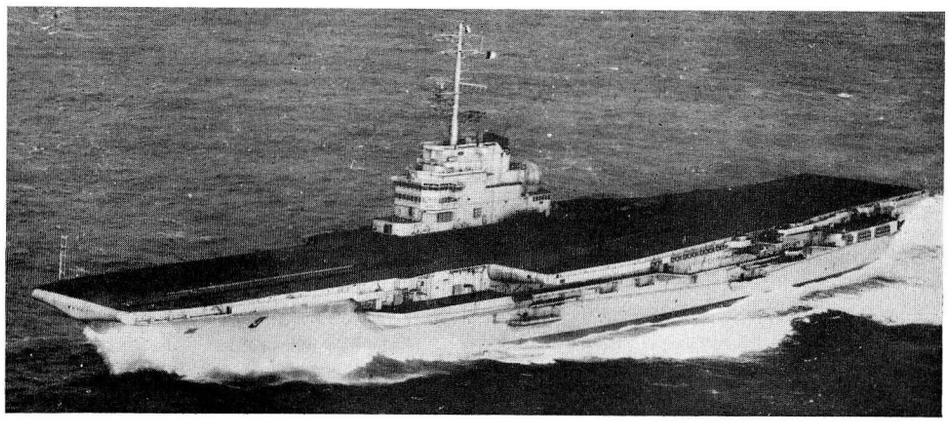
These are the first aircraft carriers fully built in France. Authorised in 1953 and 1955, respectively. They have the angled deck incorporated, two lifts, measuring 52½ × 36 feet, one of them on the starboard deck edge, two steam catapults for aircraft up to 11 tons, and two mirror sight deck landing aids. The flight deck measures 543 × 96¾ feet and is angled at 8 degrees. The dimensions of the hangar are: 497⅜ × 87 × 28 feet. These aircraft carriers were originally to have been of the light fleet type with an armament of 24—2·25 inch guns in twin mountings, but the armament was revised to 12—3·9 inch (100 mm.) in 1956 and to 8—3·9 inch (100 mm.) in 1958. The 100 mm. guns are of a new design. Rate of fire: 60 rounds per minute. *Clemenceau* was ordered from Brest Dockyard on 28 May 1954 and begun in Nov. 1955. *Foch* began construction at Chantiers de l'Atlantique a St. Nazaire, Penhoët, in a special dry dock, but is being completed by Brest Dockyard. Machinery was also ordered from Penhoët-Loire.

Cancellation Notes

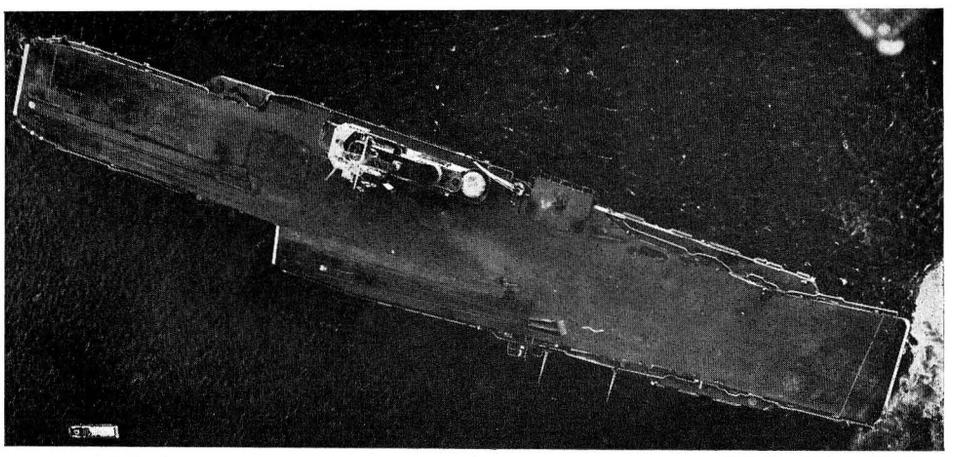
The 1958 naval estimates provided for the construction of an aircraft carrier of 30,000 tons standard displacement, but owing to the reductions in the financial vote she was not laid down.

Note to Drawing

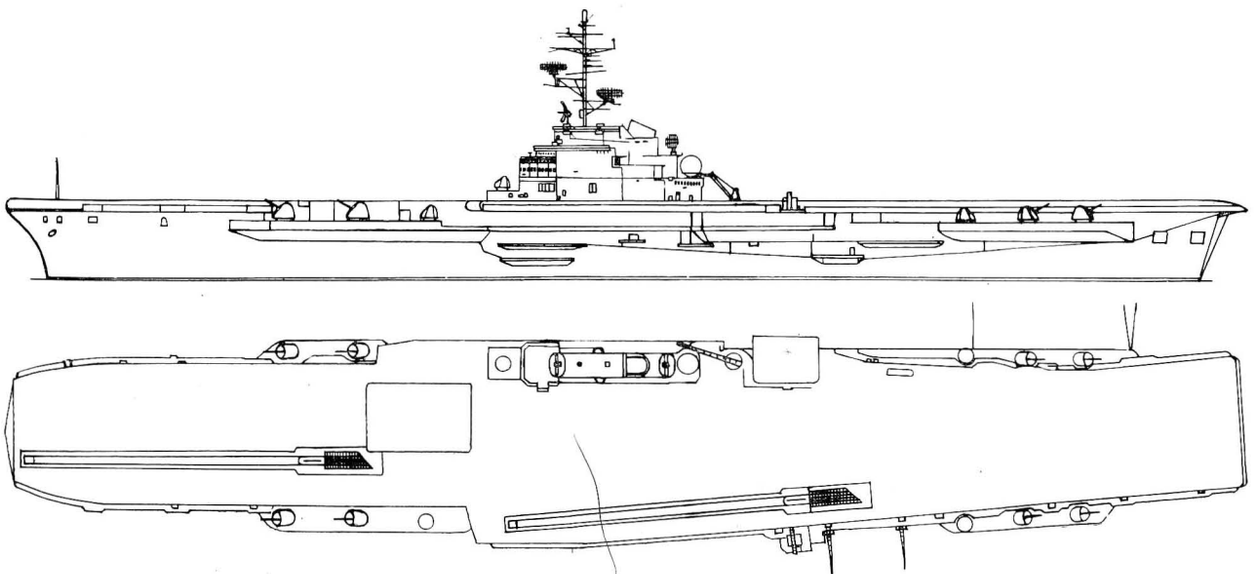
Port elevation and plan. Scale: 128 feet=1 inch. Redrawn in 1960.



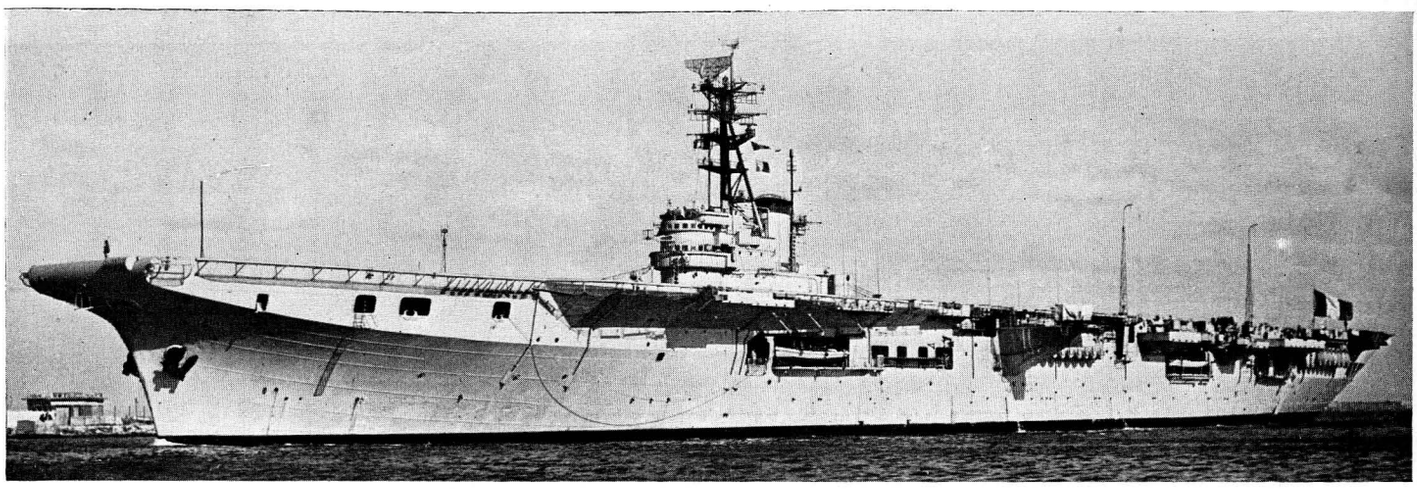
CLEMENCEAU (port bow oblique aerial view) 1960, *French Navy, Official*



CLEMENCEAU (over-head plan view showing angled deck) 1960, *French Navy, Official*



Aircraft Carriers—*continued*



ARROMANCHES

1959, *French Navy, Official*

1 Ex-British " Colossus " Class

ARROMANCHES (ex-H.M.S. *Colossus*

Pennant No:	R 95
Builders:	Vickers-Armstrongs Ltd. (Tyne)
Laid down:	1 June 1942
Launched:	30 Sep. 1943
Completed:	16 Dec. 1944

Displacement:	14,000 tons *standard* (19,600 tons *full load*), officially revised figures
Dimensions:	Length: 694½ feet (*o.a.*). Beam: 80½ feet. Width: 118 feet (*o.a.*). Draught: 23 feet
Guns:	43—40 mm. AA. (as refitted) (see *General Notes*)
Aircraft:	Capacity: 30 to 34 (24 at present). American " Hellcat " fighters and " Helldiver " dive-bombers to be replaced by new Bréguet Alize ASM aircraft
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (*designed*), 23.5 kts. (*actual*)
Boilers:	4, of 3-drum type (400 lb. working pressure, 700 degrees maximum superheat)
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.; 6,200 miles at 23 kts.
Complement:	1,620 maximum in wartime 1,019 total in peacetime (42 officers and 777 men and 200 for air service) Official figures on 1 Jan. 1959

General Notes

This ship was lent to the French Navy for five years from August 1946 with the option of purchase in 1951, which was taken up, and she was permanently transferred from Great Britain in that year. Extensively refitted 1950-51; and again refitted in 1957-58 (see *Reconstruction Notes*). Will eventually become a training carrier with no guns.



ARROMANCHES

1959, *French Navy, Official*

Reconstruction Notes

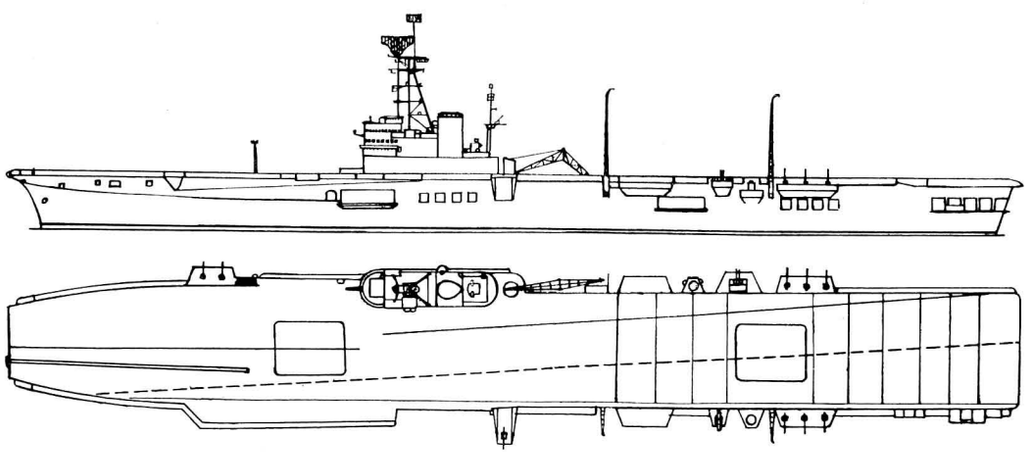
Modernised and partially rebuilt in 1957-58 with the ang'ed deck at 4 degrees, and mirror sight deck landing aid sponsons, the overall width being increased from 112½ feet to just over 118 feet (36 metres). In consequence of these modifications the ship is able to receive the new Breguet Alize ASM aircraft of the 1050 type.

Engineering Notes

Engines and boilers are arranged *en echelon*, one set of turbines and two boilers being installed side by side in each of the two main propelling machinery spaces.

Notes to Drawing

Starboard elevation and plan. Drawn in 1959. Scale: 128 feet=1 inch.



HELICOPTER CARRIER

1 New Construction

JEANNE D'ARC

Displacement:	10,000 tons *standard* (13,000 tons *full load*)
Dimensions:	Length: 590½ feet (*o.a.*). Beam: 78¾ feet (*hull*). Draught: 20½ feet (*max.*). Helicopter platform: 230 × 85 feet.
Guns:	4—3·9 inch AA. in single mountings
Guided Missiles:	Twin launcher for " Masurca " surface-to-air weapons
A/S weapons:	ASM equipment under review
Aircraft:	Normal complement of helicopters will include 8 to 12 heavy ASM machines
Machinery:	Geared turbines. 2 shafts. S.H.P.: 40,000=26·5 kts. (designed speed)
Boilers:	4
Oil fuel:	2,000 tons
Radius:	6,000 miles at 15 kts
Complement:	1,050

Notes

Authorised under the 1957 estimates. The ship has not yet been named (1960). To be used for midshipmen's training in time of peace in place of the cadets' training cruiser *Jeanne d'Arc* which is scheduled to be discarded in 1962-63. Illustration on next page.

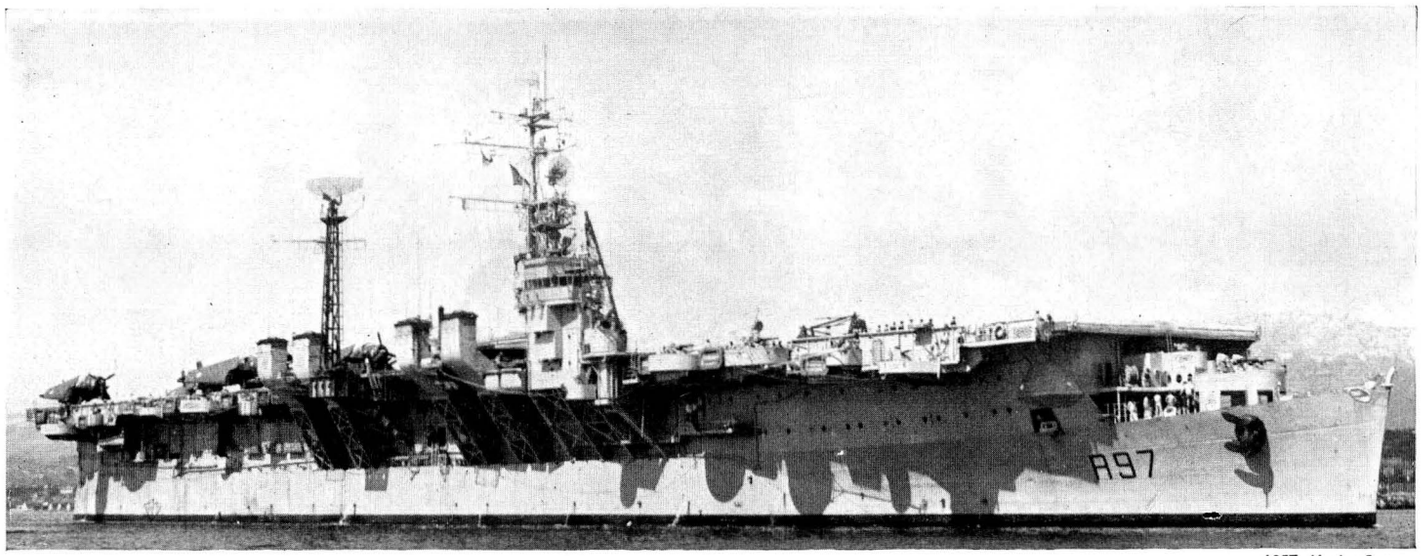
It was officially stated in 1960 that:

She will now have four 100 mm. (3·9 inch) guns instead of six;

The quadruple mortar originally planned is being replaced by a twin launcher for " Masurca " surface-to-air guided missiles;

She is to be laid down in July 1960, and will be completed and commissioned in July 1963.

Aircraft Carriers—*continued*



BOIS BELLEAU

1957, *Marius Bar*

2 Ex-U.S. "Cowpens" Class

BOIS BELLEAU (ex-*Belleau Wood*, ex-*New Haven*)
LA FAYETTE (ex-*Langley*, ex-*Crown Point*, ex-*Fargo*)

Name:	*Bois Belleau*	*La Fayette*
Pennant No.:	R 97	R 96
Builders:	New York S.B. Corpn., Camden, New Jersey	New York S.B. Corpn. Camden, New Jersey
Laid down:	11 Aug. 1941	11 Apr. 1942
Launched:	6 Dec. 1942	22 May 1943
Completed:	31 Mar. 1943	31 Aug. 1943

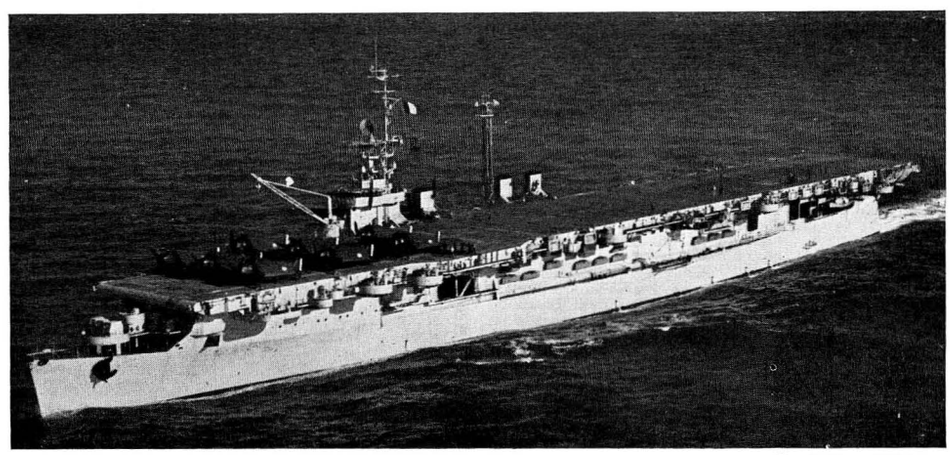
Displacement:	11,000 tons *standard* (15,800 tons *full load*)
Dimensions:	Length: 623 (*o.a.*) feet. Beam: 71½ (*hull*) feet. Width: 109 (*extreme*) feet. Draught: 26 (*max.*) feet
Armour:	2" Belt (5" on some vital points)
Aircraft:	26 carried
Machinery:	Geared turbines. 4 shafts. S.H.P.: 100,000=32 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	2,000 tons
Range:	11,000 miles at 15 kts.: 5,800 miles, at 25 kts.
Complement:	1,183 (peace); 1,400 (war)

General Notes
La Fayette was officially turned over to France on 6 June 1951 under the Mutual Defense Assistance Program. *Bois Belleau* was transferred on loan to France by the United States on 5 Sep. 1953 for five years, this period now having been extended until 1960. Formerly units of United States Navy "Cowpens" class fast light fleet aircraft carriers. Laid down as light cruisers of the U.S. "Cleveland" class but completed as aircraft carriers. A new radar mast was added on the starboard side, between the funnels, in 1955

Aircraft Notes
The maximum aircraft capacity when stowed was 101.

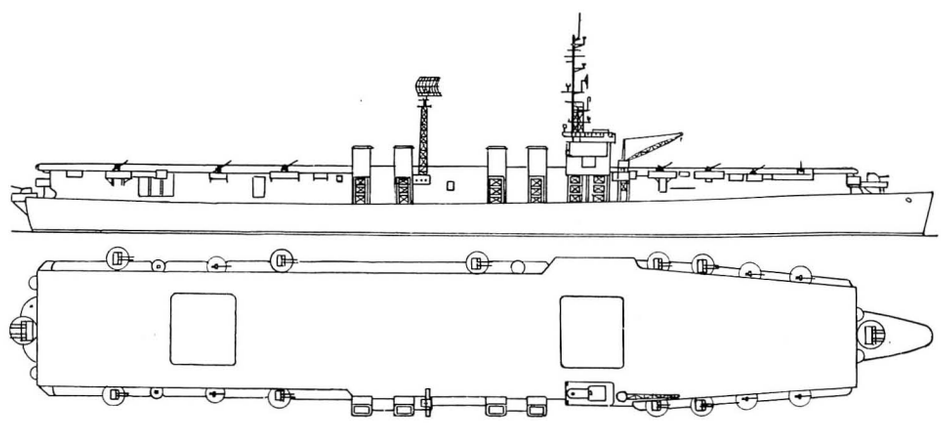
Note to Drawing
Starboard elevation and plan. Scale: 128 feet=inch.

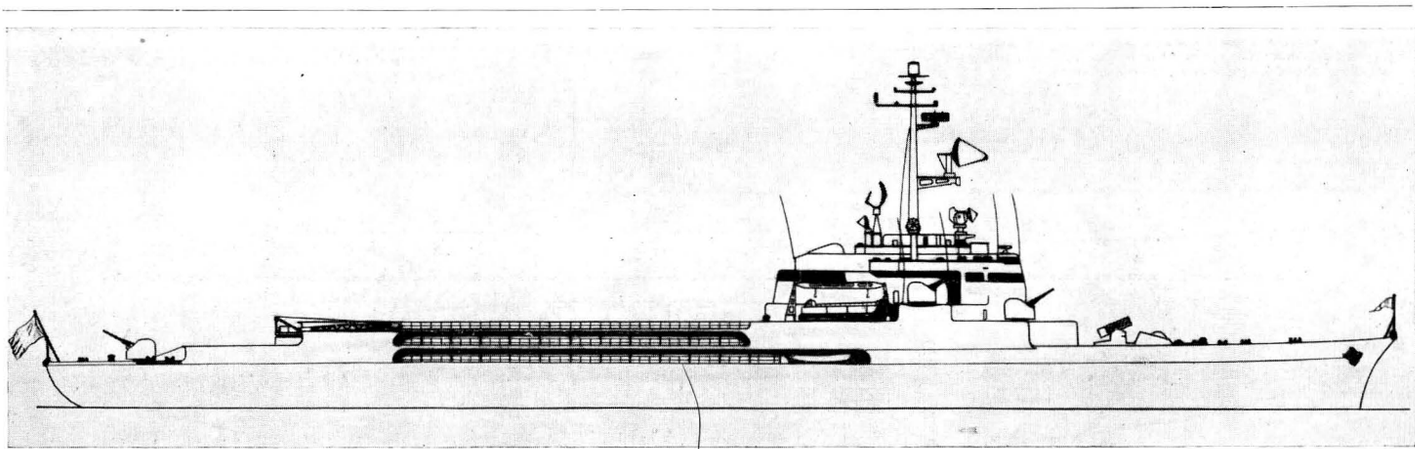
Recent Disposal
The auxiliary aircraft carrier *Dixmude* (ex-H.M.S. *Biter*, ex-*Rio Parana*), officially rated as *Transport d'Aviation*, former U.S. escort carrier, is now a hulk and used as a barracks at St. Mandner (see full particulars and photograph in the 1959-60 edition).



LA FAYETTE

French Navy, Official

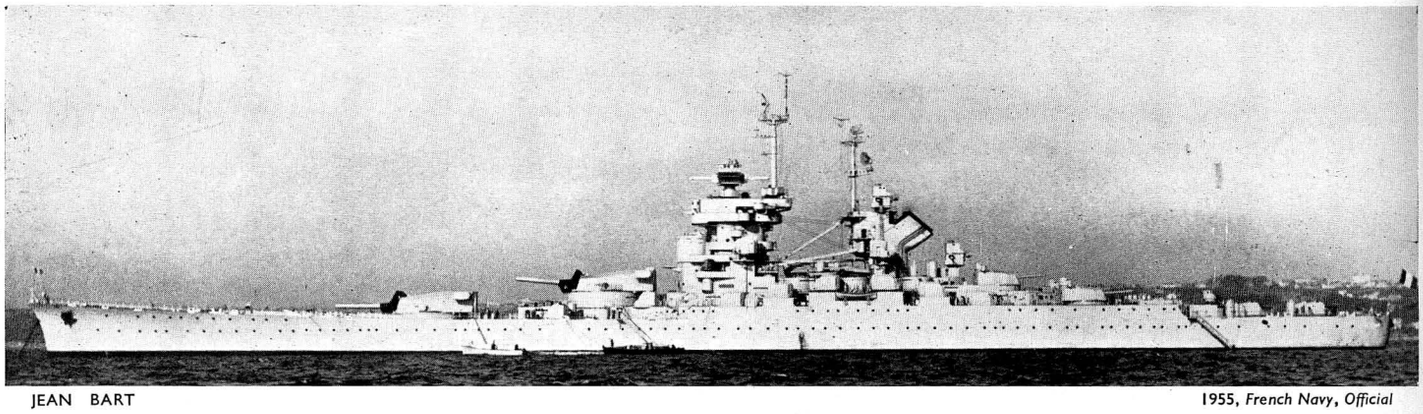




HELICOPTER CARRIER Official Drawing) see previous page

1959, *French Navy, Official*

BATTLESHIP (Rated as *Batiment de ligne*)



JEAN BART

1955, *French Navy, Official*

JEAN BART

Pennant No.:	B 61
Builders:	A.C. Loire Shipyard
Laid down:	Jan. 1939
Launched:	6 Mar. 1940
Completed:	1949 (in service 1955)
Displacement:	35,000 tons (*nominal*); 38,750 tons (*standard*); 49,000 tons (*full load*)
Dimensions:	Length: 813¾ feet (*o.a.*). Beam: 116½ feet. Draught: 30 feet (32¾ feet *full load*)
Guns:	8—15 inch, 9—6 inch d.p., 24—3·9 inch d.p., 28—57 mm. AA., 20—20 mm. AA. (Oerlikon)
Armour:	15¾″-8¾″ Belt, 6¾″-6″ (upper armoured deck), 1½″ (lower armoured deck), 17″, 11¾″, 6¾″ and 5¼″ Main Turrets, 13½″ Conning Tower
Machinery:	Parsons geared turbines. 4 shafts S.H.P.: 150,000=30 kts. (On preliminary trials she reached 32 kts. with 160,000 S.H.P.)
Boilers:	6 Indret-Sural. Steam pressure 384 lbs./sq. in. superheated 700°F
Oil fuel:	6,000 tons
Radius:	8,500 miles at 14 kts., 6,900 miles at 20 kts., 3,400 miles at 30 kts.
Complement:	70 officers, 1,600 ratings (peace): 88 officers, 2,055 ratings (war)

General Notes

Having had bulges fitted, this ship has greater beam than *Richelieu*. Also has different type of bridge and improved AA. armament. When building at St. Nazaire (A.C. Loire shipyard), she succeeded in escaping in June 1940, in an incomplete state and prior to any trials, and arriving at Casablanca, where she stayed during the war. Building was resumed in 1945 at Brest Navy Yard, and she ran her first sea trials in Jan. 1949. Excellent and most elaborate radar equipment is installed, rendering her suitable for employment as a "command vessel." Commissioned in April 1950 for gunnery trials and exercises, and her long-delay ed armament was mounted during winter of 1951-52. In service 1955. Employed as an accommodation vessel for the gunnery training ships at Toulon since 1956.

Gunnery Notes

The 57 mm. anti-aircraft guns are of the same model as mounted in the ainti-aircraft cruisers *Colbert* and *De Grasse*, the aircraft direction destroyers of the "T 53" type, the anti-aircraft destroyers of the "T 47" type, and the fast anti-submarine and anti-aircraft frigates of the "E 52" and "E 50" types.

Engineering Notes

The total weight of machinery is over 3,000 tons.

Armour Notes

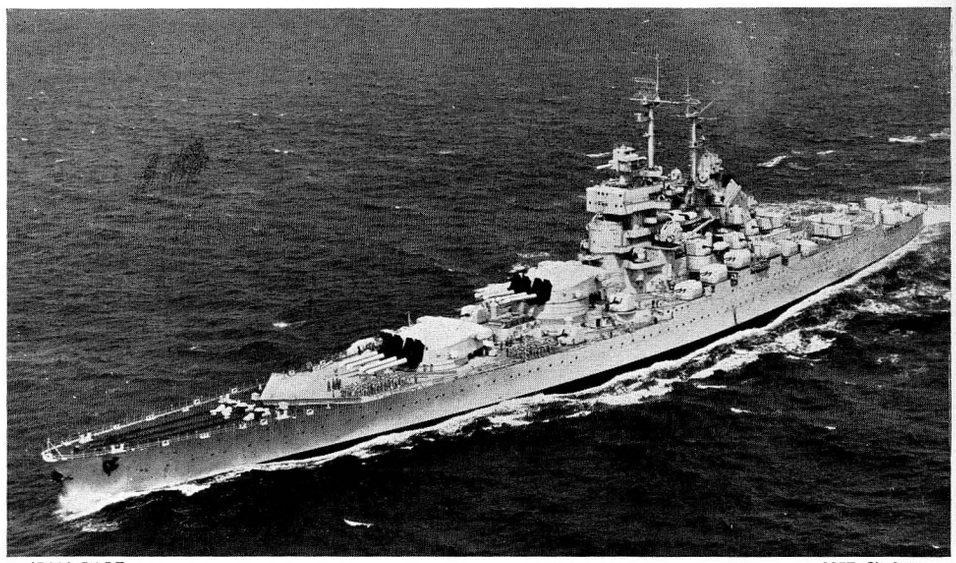
The proportion of displacement devoted to armour is 40 per cent higher than in any previous ships. The total weight of armour is 14,000 tons.

Class Notes

Both *Richelieu* and *Jean Bart* were built in dry dock, their cost exceeding 2,000,000,000 francs each. *Jean Bart* was built in the Loire yard, but her construction was shared by the Penhoët concern. The uncompleted hull of a third ship, *Clemenceau*, was sunk by Allied heavy bombers during the siege of Brest. A fourth ship, the *Gascogne*, was projected, but never begun.

Recent Disposal

Sister ship *Richelieu* has been employed as an accommodation vessel for the reserve officers' training establishment at Brest since 1956. In 1960 she was classed as a hulk and no longer listed under combatant vessels (for full particulars, photographs and drawings, see 1959-60 edition).



JEAN BART

1957, *Skyfotos*

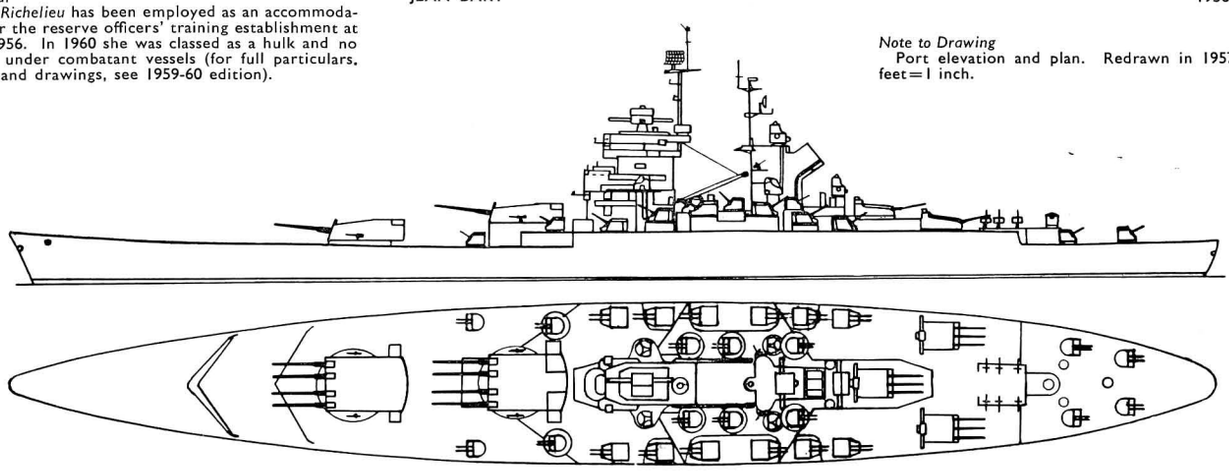


JEAN BART

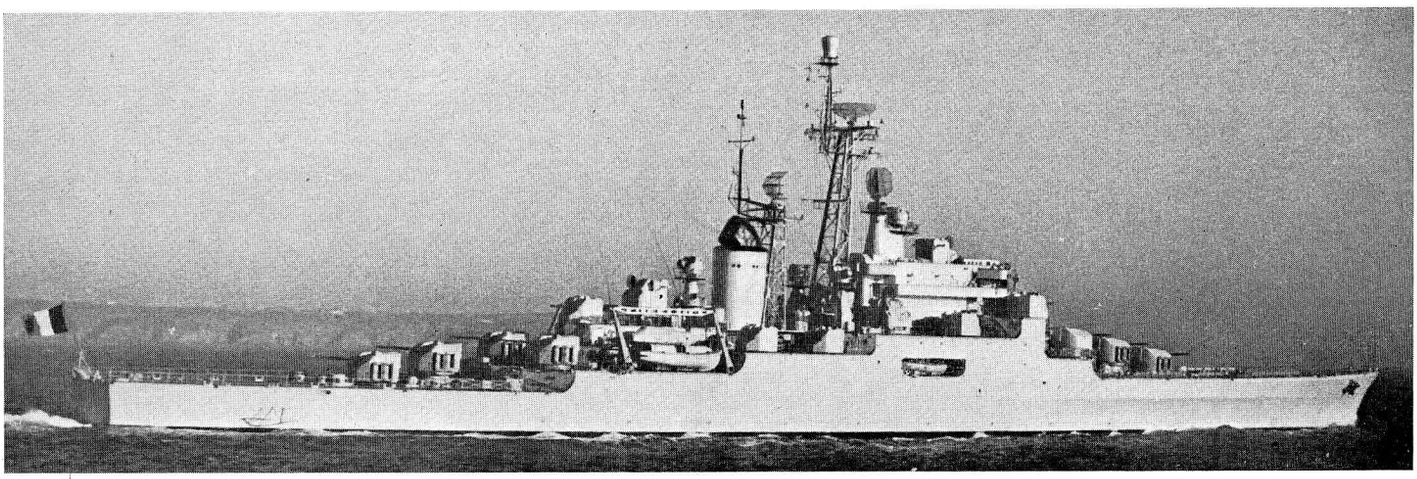
1956, *Skyfotos*

Note to Drawing

Port elevation and plan. Redrawn in 1957. Scale: 128 feet=1 inch.



ANTI-AIRCRAFT CRUISERS



COLBERT

1959, *French Navy, Official*

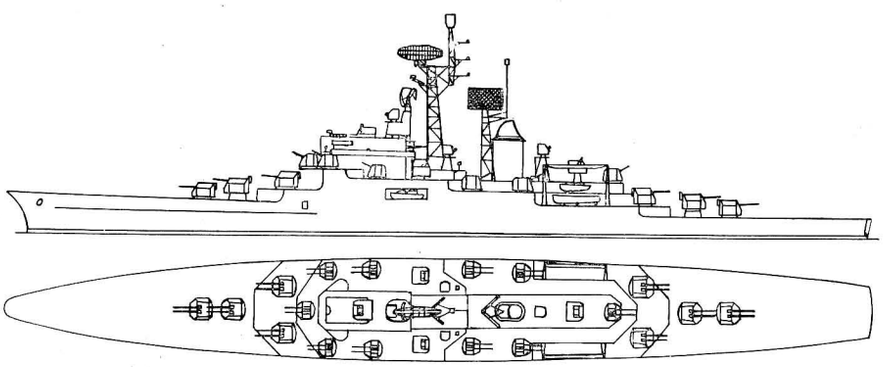
1 Improved "De Grasse" Class

COLBERT

Pennant No:	C 611
Builders:	Brest Dockyard
Laid down:	Dec. 1953
Launched:	24 Mar., 1956 (floated out of dry dock)
Completed:	1958 (trials end of 1957)
Displacement:	8,720 tons *standard* (11,000 tons *full load*), officially revised figures
Dimensions:	Length: 574½ (*pp.*), 597⅝ (*o.a.*) feet. Beam: 63½ feet. Draught: 18¾ feet
Guns:	16—5 inch AA. (twin mounts), 20—57 mm. Bofors AA. (10 twin mountings)
Aircraft:	1 helicopter
Armour:	Has some protection. See notes
Machinery:	Geared turbines. 2 shafts. S.H.P.: 86,000=32 kts.
Boilers:	4
Radius:	4,000 miles at 25 kts.
Complement:	977 (70 officers and 907 men)

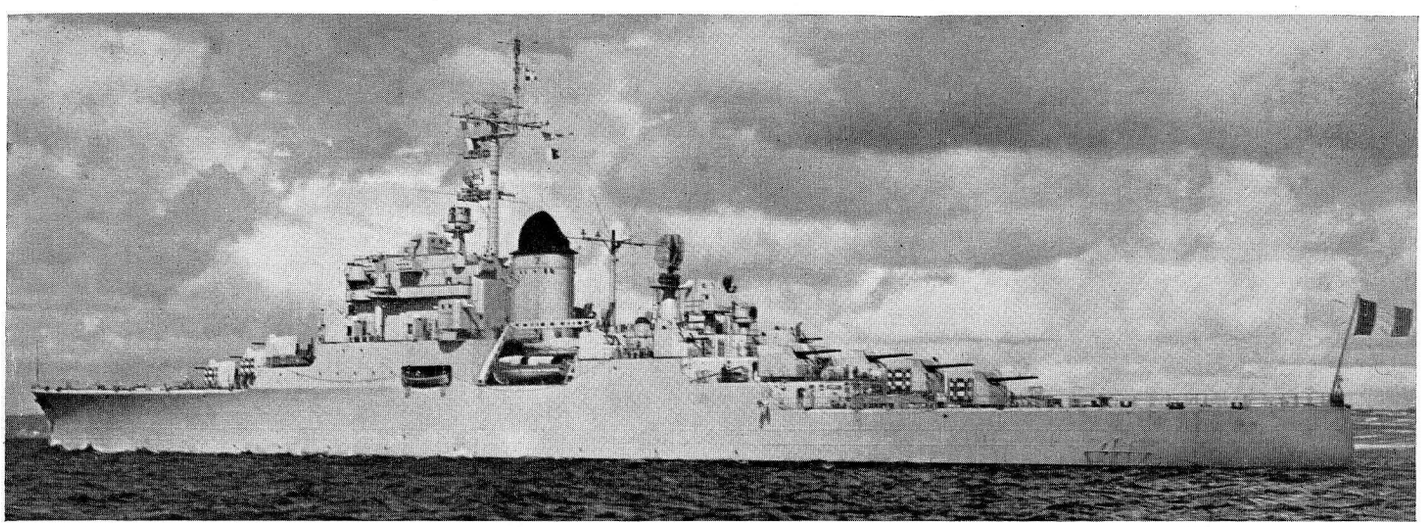
General Notes

Improved De Grasse type. Provision has been made in the design so that she can be fitted eventually with guided missiles. Has a new scheme of protection, quite different from that of *De Grasse*, and a platform for a helicopter. As a fast transport she could carry 2,400 men with equipment.



Notes to Drawing

Port elevation and plan. Redrawn in 1957. Scale: 128 feet=1 inch.



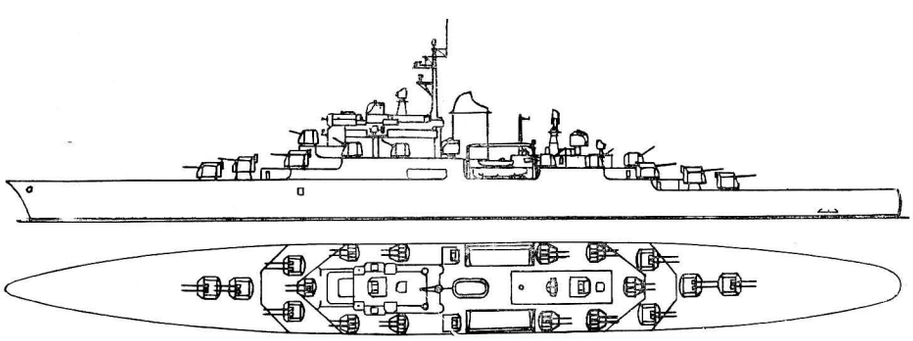
DE GRASSE

1957, *French Navy, Official*

1 "De Grasse" Class

DE GRASSE

Pennant No.:	C 610
Builders:	Lorient Dockyard and Brest Dockyard (see notes)
Engineers:	A. & C. de Bretagne
Laid down:	Nov. 1938
Launched:	11 Sep. 1946
Completed:	Aug. 1955 (trials); officially commissioned (ready for active service) 3 Sep. 1956
Displacement:	9,380 tons *standard* (11,545 tons *full load*) officially revised figures
Dimensions:	Length: 592 (*pp.*), 617⅛ (*o.a.*) feet. Beam: 61 feet. Draught: 18½ feet (*mean*)
Guns:	16—5 inch AA., 12—57 mm. AA. Bofors twin mounts
Armour:	Has some protection including armoured deck and side belt.
Machinery:	Rateau-Chantiers de Bretagne geared turbines. 2 shafts. S.H.P.: 105,000=33·5 kts.
Boilers:	4 multitubular
Radius:	5,000 miles at 18 kts.
Complement:	983 (86 officers and 897 men with Admiral on board), officially revised figures



General Notes

Ordered under the 1937 Estimates. Her construction was suspended during the German occupation of Lorient, but was resumed in 1946 until her launch. Building then again stopped pending study of new anti-aircraft equipment and owing to the financial situation. Construction was again resumed on 9 Jan. 1951. Completed in Brest Dockyard as an anti-aircraft cruiser to a modified design with modern armament. She is equipped as a fleet command ship and for radar control of air strikes. This applies also to *Colbert*.

Gunnery Notes

Guns are radar controlled with stabilised gunlayers for automatic tracking. This applies also to *Colbert*.

Note to Drawing

Refitted with a stump mainmast in Jan. 1956. Scale: 128 feet=1 inch. Redrawn in 1957.

GUIDED MISSILE CRUISER

1 Projected Light Type

To be laid down at the beginning of 1961.
To be commissioned in 1965.

Displacement:	5,000 tons (*mean*)
Dimensions:	Length: 518½ (*o.a.*) feet. Beam: 48 feet
Machinery:	Geared turbines. Speed=34 kts.
Guided Missiles:	" Masurca " surface-to-air weapons
Guns:	2 single mount automatic 3.9 inch AA. guns. 2 single mount automatic 30 mm. AA. guns
Aircraft:	A/S helicopters
A/S weapons:	(*a*) Malafon guided missile. The Malafon is a rocket-glider dropping a homing torpedo in the vicinity of the enemy submarine.
	(*b*) AS helicopters directed by the cruiser towards the enemy submarine.
	(*c*) Homing torpedoes launched directly from the ship.

General Notes

The structure of the ship will provide the best possible resistance to atomic blast.

The cruiser is to be fitted with up-to-date detection devices (radars and sonars).

Carefully studied habitability is a feature of the design.

(All the above particulars were kindly furnished by the French Admiralty in April 1960.)

TRAINING CRUISER (*Croiseur-Ecole*)

JEANNE D'ARC

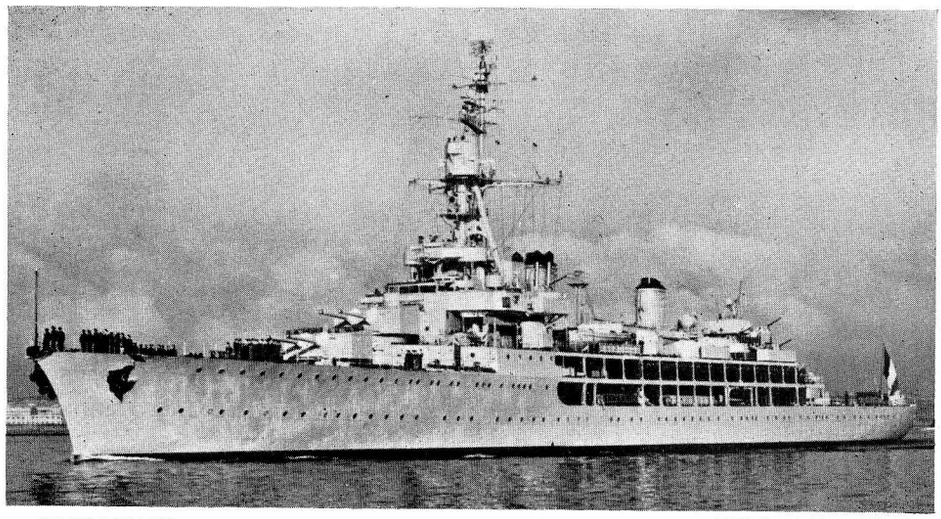
Pennant No.:	C 605
Builders:	Penhoët, St. Nazaire
Laid down:	1928
Launched:	14 Feb. 1930
Completed:	Sep. 1931
Displacement:	6,500 tons *standard* (9,000 tons *full load*)
Dimensions:	Length: 525 (*pp.*), 557¾ (*o.a.*) feet. Beam: 57½ feet. Draught: 17¾ (*mean*), 20¾ (*max.*) feet
Guns	8—6·1 inch, 4—2·9 inch (75 mm.) AA., 8—40 mm. AA., 10—20 mm. AA.
Armour:	Protective deck and light plating to gunhouses and conning tower
Machinery:	Parsons geared turbines. 2 shafts. Designed H.P.: 32,500=25 kts. (22 to 23 kts. actual sea speed) see *Engineering Notes*
Boilers:	4 Penhoët
Oil fuel:	1,400 tons
Radius:	5,200 miles at 11 kts., 3,200 miles at 21 kts.
Complement:	648 maximum in wartime 582 total in peacetime (32 officers, 120 petty officers and 430 ratings) officially revised figures.

General Notes

Authorised under the 1927 Programme. This ship was specially designed for duty as a training cruiser and can accommodate 156 midshipmen and cadets and 20 instructional officers in addition to ordinary complement. She is scheduled to be discarded in 1963 when a new helicopter carrier will be used in peacetime as a training ship to replace her (see earlier page).

Engineering Notes

On 3 hours' full power trials the propelling machinery developed an average of 39,200 S.H.P. equal to 27·03 (*mean*), 27·84 (*max.*) kts.



JEANNE D'ARC — 1959, *French Navy, Official*

Recent Disposals

Of the three old cruisers of the " Gloire " class, the *Gloire* was condemned on 2 Jan. 1958, *Georges Leygues* was scrapped in 1959, and *Montcalm* was relegated to be an accommodation ship at Toulon (replacing the hulk *Emile Bertin*). For full particulars, photographs and drawings, see 1959-60 and earlier editions.

COMMAND SHIPS AND FLOTILLA LEADERS (Ex-Light Cruisers) Rated as *Escorteurs d'Escadre*



GUICHEN — 1959, *Keith Long*

2 "Chateaurenault" Class
(Ex-Italian " Capitani Romani " Type)

CHATEAURENAULT (ex-*Attilio Regolo*)
GUICHEN (ex-*Scipione Africano*)

Name:	*Chateaurenault*	*Guichen*
Pennant No.:	D 606	D 607
Builders:	O.T.O., Leghorn	O.T.O., Leghorn
Laid down:	28 Sep. 1939	28 Sep. 1939
Launched:	28 Aug. 1940	12 Jan. 1941
Completed:	14 May 1942	18 Feb. 1943
Converted:	1 Apr. 1954	1 July 1954

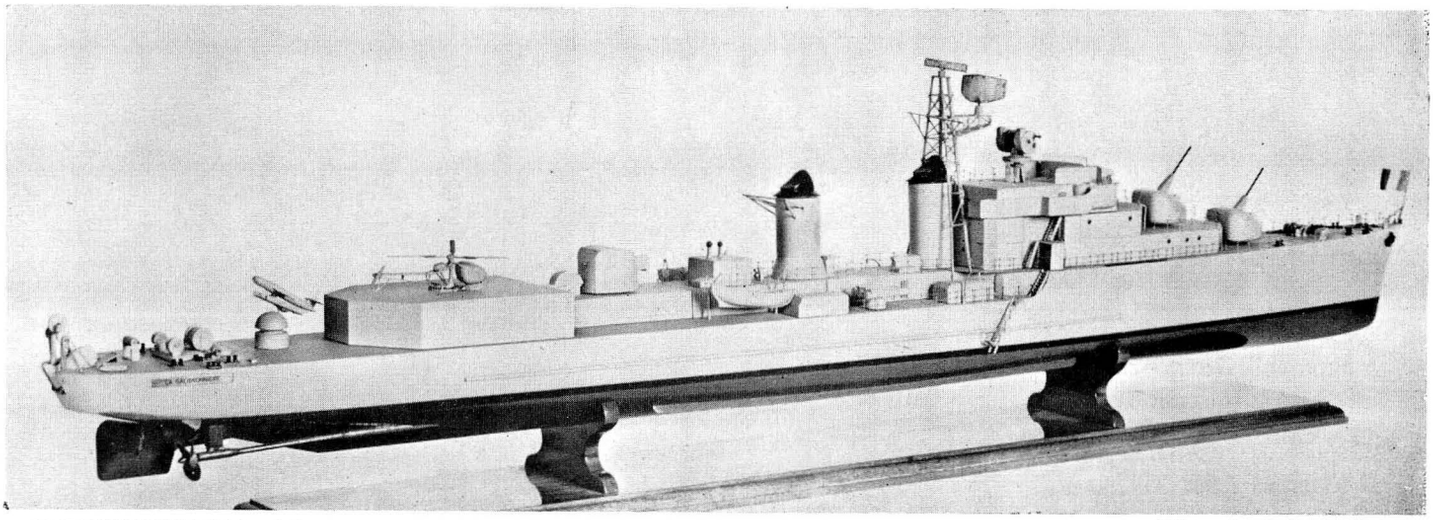
Displacement:	3,680 tons *standard* (5,500 to s *full load*) officially revised figures
Dimensions:	Length: 444¼ (*pp.*), 455½ (*w.l.*), 466½ (*o.a.*) feet. Beam: 44¾ feet. Draught: 15 (*mean*), 17⅜ (*max.*) feet
Guns:	4—4·1 inch AA. (ex-German) twin mounts (see *Notes*), 10—57 mm. Bofors AA., twin mounts
Tubes:	6—21·7 inch in two triple mountings
A/S weapons:	for A/S torpedoes (see *Notes*)
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 90,000=39 kts. (*max.*), (sea speed 34-35 kts.)
Boilers:	4, of 3-drum type
Oil fuel:	1,400 tons
Radius:	6,800 miles at 10 kts.; 3,600 miles at 18 kts.; 1,800 miles at 30 kts.
Complement:	353 war (24 officers and 329 men)

Notes

Former Italian light cruisers. Allocated in 1948 as France's share of surrendered Italian tonnage. These ships are lightly constructed with alloy superstructure and no armour, strength and protection having been sacrificed to speed, but are good sea-boats. Originally equipped for minelaying. They were modernised and fitted as fast A/S and AA. cruisers in 1954 with new main armament of the German 105 mm. pattern. Rebuilding for ASW was equivalent to the United States cruiser, hunter-killer-ship *Norfolk* (Destroyer Leader). Reconstruction of both was undertaken by F. C. Méderranée. La Seyne Dockyard in summer 1951. Recommissioned for trials July 1954. Re-rated as Escorteurs d'Escadre in 1955. It was announced in 1957 that they were to be fitted out as Command Ships and Flotilla Leaders, the after twin 4·1 inch turret and the forward six of the twelve torpedo tubes being removed to provide extra accommodation for staff officers and space for radar control equipment. *Guichen* was completed as such early in 1959

DESTROYERS (Rated as *Escorteurs d'Escadre*)

18 "Surcouf" Group



LA GALISSONIERE (official model)

1960, *courtesy M. Henri Le Masson*

1 Anti-Submarine Type

New Construction

LA GALISSONIERE

Pennant No.:	D 638
Builders:	Lorient Naval Dockyard
Laid down:	Nov. 1958
Launched:	12 Mar. 1960
Completed:	To be 1961
Displacement:	2,750 tons *standard* (3,750 tons *full load*)
Guns:	2—3·9 inch automatic AA. in single mounts, 2—30 mm. automatic AA. in single mounts
Aircraft:	1 helicopter (see A/S weapons)
Guided Missiles:	"Malafon" weapon (see A/S weapons)
Tubes:	6—21·7 inch ASM
A/S weapons:	1—12 inch (quadruple) ASM mortar 1 A/S helicopter 1 launcher for "Malafon" A/S guided missile
Machinery:	Geared turbines. 2 shafts. S.H.P.: 63,000=34 kts.
Boilers:	4
Oil fuel:	800 tons
Radius:	5,000 miles at 18 kts.
Complement:	350

General Notes

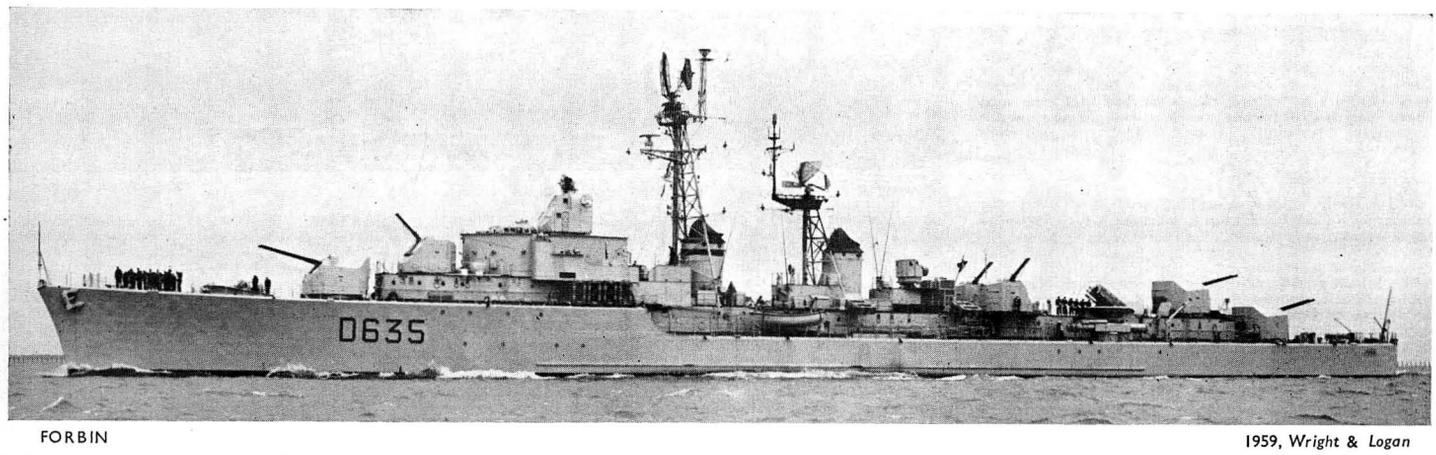
Designed as a squadron escort and flotilla leader. She will have extensive sonar and anti-submarine apparatus and both conventional and homing torpedoes. Particularly well developed anti-aircraft and radar equipment. T 56 type. Same characteristics as regards hull and machinery as T 47 and T 53 R types, but different armament. She will have a platform for a helicopter. When first commissioned she will be used as an experimental ship for new sonars and anti-submarine weapons, it was officially stated in 1960.

Gunnery Notes

She will be fitted experimentally with French marks of guided missiles and she will be the first French combatant ship to be so armed. This is the reason for the now official two 3·9 inch guns instead of the 3 or 4 previously planned. Her torpedo tubes may for the same reason be reduced or suppressed. As redesigned she will be France's first operational guided missile ship. She will also carry helicopters and will be fitted out as a command ship.

Photograph Notes

The above photograph is of the official model as projected in 1960. Since 1958 there have been several recastings of the design.



FORBIN

1959, *Wright & Logan*

5 Aircraft Direction Type

DUPERRÉ
FORBIN
JAURÉGUIBERRY
LA BOURDONNAIS
TARTU

Displacement:	2,750 tons *standard* (3,750 tons *full load*)
Dimensions:	422 (*o.a.*)×41⅔×16½ (*mean*), 17¾ (*max.*) feet
Guns:	6—5 inch AA. (twin mounts), 6—2·25 inch (57 mm.) Bofors AA., 2 or 4—20 mm. AA.
Tubes:	6—21·7 inch ASM (two triple mountings) also able to launch ordinary torpedoes
A/S weapons:	New device of heavy hedgehog (sextuple Bofors *lance roquettes* howitzer)
Machinery:	2 Geared turbines. 2 shafts. S.H.P.: 63,000=34 kts.
Boilers:	4 (500 lb./sq. in. pressure, 725; superheat) in two boiler rooms separated by turbine compartments.
Oil fuel:	700 tons
Radius:	5,000 miles at 18 kts.
Complement:	346 (20 officers and 326 men)

General Notes

Radar Picket Destroyers. Modified "Surcouf" Class or "T 53 R" Type. Specially fitted as aircraft direction and command ships. Radar equipment is more comprehensive and prominent than in the original "Surcouf" or "T 47" Anti-Aircraft Type and gives them a different appearance. All authorised under the 1953 Programme. These vessels were classed as Escorteurs Rapides in 1953, but re-rated as Escorteurs d'Escadre in 1955. Latest electronic appliances provided. Names after famous French sailors.



DUPERRÉ

1959, *A. & J. Pavia*

Constructional Notes

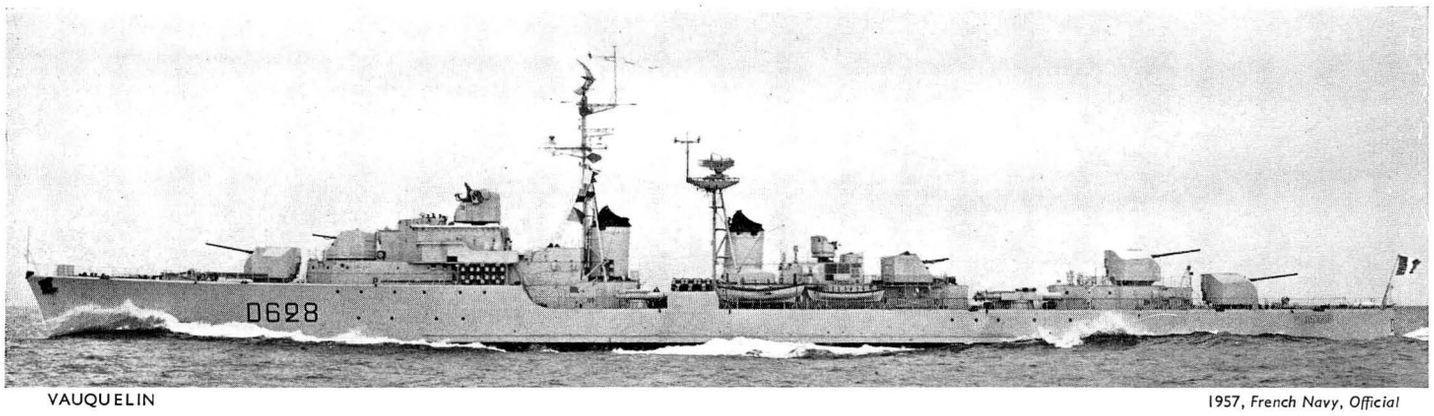
Hull entirely welded. Light alloys used extensively for upperworks.

Gunnery Notes

The 5 inch guns are able to use standard American ammunition.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed (commissioned)*
D 633	*Duperré*	Lorient Naval Dockyard	Nov. 1954	2 July 1955	8 Oct. 1957
D 635	*Forbin*	Brest Naval Dockyard	Aug. 1954	15 Oct. 1955	1 Feb. 1958
D 637	*Jauréguiberry*	F. C. Gironde	Sep. 1954	5 Nov. 1955	July 1958
D 634	*La Bourdonnias*	Brest Naval Dockyard	Aug. 1954	15 Oct. 1955	Mar. 1958
D 636	*Tartu*	A.C. Bretagne	Nov. 1954	2 Dec. 1955	5 Feb. 1958

Destroyers—*continued*



VAUQUELIN

1957, *French Navy, Official*

"Surcouf" Group—*continued*

12 Anti-Aircraft Type

BOUVET
CASABIANCA
CASSARD
CHEVALIER PAUL
D'ESTRÉES
DU CHAYLA
DUPETIT THOUARS
GUÉPRATTE
KERSAINT
MAILLÉ-BRÉZÉ
SURCOUF
VAUQUELIN

Displacement:	2,750 tons *standard* (3,750 tons *full load*)
Dimensions:	422 (*o.a.*) × 41⅜ × 16½ (*mean*), 17¾ (*max.*) feet
Guns:	6—5 inch. AA. (twin mounts), 6—2·25 inch (57 mm.) Bofors AA., 6—20 mm. AA.
Tubes, A/S weapons:	12—21·7 inch in four triple mountings (6 for ordinary and special ASM torpedoes, 6 for ASM homing torpedoes only)
Machinery:	2 Geared turbines. 2 shafts. S.H.P.: 63,000=34 kts. (on trials *Surcouf* made 36·5 kts.)
Boilers:	4 (500 lb./sq. in. pressure, 725° F. superheat) in two boiler rooms alternating with two turbine compartments
Oil fuel:	700 tons
Radius:	5,000 miles at 18 kts.
Complement:	347 (19 officers and 328 men)

General Notes

One authorised under 1949 Programme, one 1950, our 1951, six 1952. These vessels were designed as Escorteurs Rapides Anti-aériens but re-rated as Escorteurs de Prèmiere Classe in 1951, as Escorteurs Rapides in 1953 and as Escorteurs d'Escadre in 1955. Latest electronic appliances provided. Named after famous French sailors. These ships are the original "Surcouf" class or "T 47" type. All were commissioned by 1957.

Constructional Notes

Hull entirely welded, assembled from 84 prefabricated sections with a total weight of 1,100 tons. Light alloys used extensively for upperworks.

Gunnery Notes

The 5 inch guns (a new calibre in the French Navy) are semi-automatic, and were chosen to facilitate ammunition supply so that these guns are able to use standard American ammunition. *Bouvet* is employed as gunnery instruction ship.

Recent Disposal Notes

Of the older destroyers (*escorteurs rapides*): *L'Alsacien* was condemned in 1955 and sister ship *Le Lorrain* was stricken in 1956. *Hoche* and sister ship *Marceau* were condemned in 1957. *Kleber* was condemned in 1957, *Le Terrible* was declassed in 1957 and reduced for use as a stationary training ship for subordinate engineer officers and mechanics (see Port Depot ships on a later page). *Albatros* was discarded in 1957.



GUÉPRATTE

1959, *Keith Long*



CASABIANCA

1959, *Wright & Logan*

Pennant No.	*Name*	*Builders*	*Laid down†*	*Launched*	*Completed**
D 624	*Bouvet*	Lorient Naval Dockyard	June 1952	3 Oct. 1953	13 May 1956
D 631	*Casabianca*	A.C. Bretagne	Oct. 1953	13 Nov. 1954	4 May 1957
D 623	*Cassard*	A.C. Bretagne	Nov. 1951	12 May 1953	14 Apr. 1956
D 626	*Chevalier Paul*	F.C. Gironde	Feb. 1952	28 July 1953	22 Dec. 1956
D 629	*D'Estrées*	Brest Naval Dockyard	May 1953	27 Nov. 1954	19 Mar. 1957
D 630	*Du Chayla*	Brest Naval Dockyard	July 1953	27 Nov. 1954	4 June 1957
D 625	*Dupetit Thouars*	Brest Naval Dockyard	Mar. 1952	4 Feb. 1954	15 Sep. 1956
D 632	*Guépratte*	F.C. Gironde	Aug. 1953	9 Nov. 1954	6 June 1957
D 622	*Kersaint*	Lorient Naval Dockyard	Nov. 1951	3 Oct. 1953	20 Mar. 1956
D 627	*Maillé-Brézé*	Lorient Naval Dockyard	Oct. 1953	26 Sep. 1954	4 May 1957
D 621	*Surcouf*	Lorient Naval Dockyard	July 1951	3 Oct. 1953	1 Nov. 1955
D 628	*Vauquelin*	Lorient Naval Dockyard	Mar. 1953	26 Sep. 1954	3 Nov. 1956

† Dates when assembly actually started on slip.

* Dates of entering service

FRIGATES (Rated as *Avisos Escorteurs*)

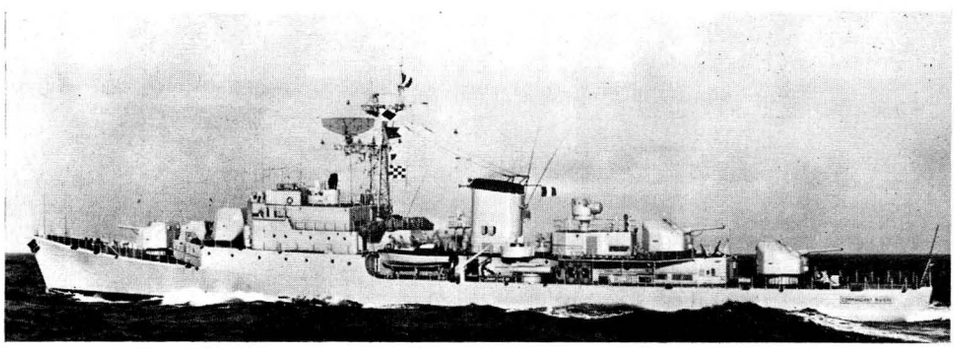
9 New Construction Dual Purpose Type

	Launched
AMIRAL CHARNER	12 Mar. 1960
BALNY	To be 1961
COMMANDANT BORY	11 Oct. 1958*
COMMANDANT BOURDAIS	To be 1961
COMMANDANT RIVIÈRE	11 Oct. 1958*
DOUDART DE LA GRÈE	To be 1961
ENSEIGNE DE VAISSEAU HENRY	
PROTET	
VICTOR SCHOELCHER	11 Oct. 1958*

Displacement:	1,750 tons *standard* (2,200 tons *full load*)
Dimensions:	321½ (*pp.*), 334 (*o.a.*) × 37¾ × 12½ (*mean*) feet
Guns:	3—3·9 inch automatic AA. of new design in single turrets; 2—30 mm. AA.
Aircraft:	1 light helicopter can land aft
Tubes:	6—21 inch ASM
A/S weapons:	1—12 inch quadruple ASM and anti-shore mortar and other weapons
Machinery:	Diesels. 2 shafts. B.H.P.: 16,000=25 kts. (see notes)
Radius:	4,500 miles at 15 kts. 6,000 miles at 12 kts.
Complement:	135 peace, 210 war (Commando unit of 80 can be carried)

Notes

Seven ordered under 1956 naval estimates. Two more being built under 1957 estimates. All allocated to Lorient Naval Dockyard. *Commandant Rivière* started assembly on slip in Nov. 1956. *Balny* and *Commandant Bory* are to be equipped with Sigma free piston generators and gas turbines. Others will have four SEMT-Piel stick diesels coupled two by two on two shafts. Formerly classed as *Escorteurs d'Unian Francaise*, to serve as *avisos* in peacetime and *frigates* in wartime, but officially re-rated as *Avisos Escorteurs* on 1 Apr. 1959. *Commandant Rivière*, name-ship of the class, was commissioned to run her preliminary sea trials on 1 Apr. 1959, and sailed as tender to *Jeanne d'Arc* early in 1960. Three others (*) are to be completed in 1961.



COMMANDANT RIVIÈRE

1960, *courtesy M. Henri Le Masson*

FAST FRIGATES (Rated as *Avisos Escorteurs*)

18 Oceangoing (A/S and AA.) Group

14 "Le Normand" Class

(E 52 a Type)

L'AGENAIS
L'ALSACIEN
LE BASQUE
LE BÉARNAIS
LE BOURGUIGNON
LE BRETON
LE CHAMPENOIS
LE GASCON
LE LORRAIN
LE NORMAND
LE PICARD
LE PROVENÇAL
LE SAVOYARD
LE VENDÉEN

Displacement:	1,295 tons *standard* (1,700 tons *full load*)
Dimensions:	311⅔ (*pp.*), 327½ (*o.a.*) × 33¾ × 10 feet
Guns:	6—2·25 inch (57 mm.) AA. (twin mounts), 2—20 mm. AA.
Tubes:	12 ASM tubes (four triple mountings aft) for homing torpedoes
A/S weapons:	Heavy sextuple ASM Bofors mortar of hedgehog type forward (*lance-roquettes*); 2 D.C. mortars; 1 D.C. rack (see *Notes*)
Machinery:	Geared turbines. Parsons or Rateau. S.H.P.: 20,000=27 kts. (on trials they topped over 29 kts.)
Boilers:	2 (500 lbs./sq. in. pressure, 725°F. superheat)
Radius:	4,500 miles at 15 kts.
Complement:	200

General Notes

The E 52 a type have similar characteristics to the E 50 type as regards hull and machinery but are easily distinguished in that they have the ASM tubes aft and the heavy hedgehog or ASM howitzer forward while the E 50 type have the ASM torpedo tubes forward. *L'Alsacien*, *Le Béarnais*, *Le Provençal* and *Le Vendéen* have a different arrangement of bridges, funnel and armament, with a 12-inch quadruple mortar in place of the sextuple Bofors howitzer, and only 4—57 mm. AA. guns. *L'Alsacien*, *Le Provençal* and *Le Vendéen* have the Strombos-Valensi type modified funnel cap.

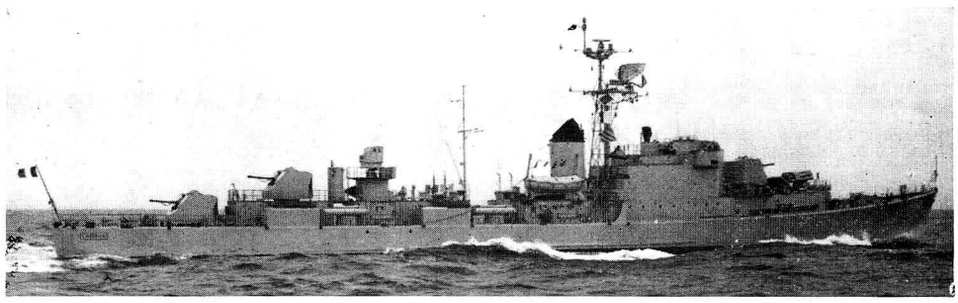
Cancellation Notes

Owing to financial difficulties the construction of the two frigates of the "E 52 b" type, which were to have been provided under the 1957 naval estimates, was abandoned.

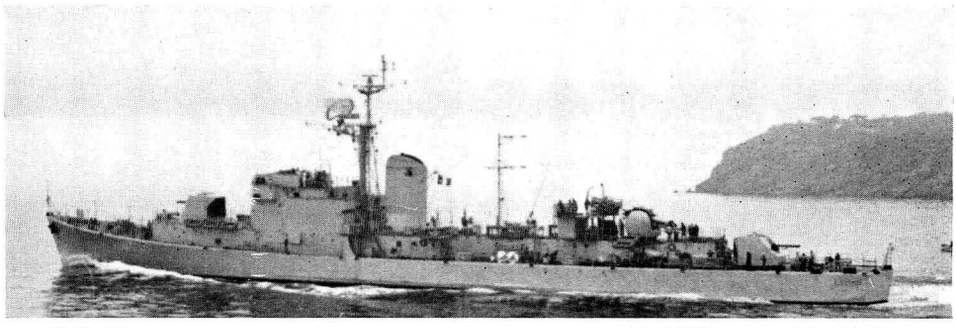
Photograph Notes

A larger photograph of *Le Gascon* appears in the 1957-58 to 1959-60 editions. Photographs of *Le Champenois* in the 1957-58 edition, and of *L'Agenais* in the 1958-59 edition, *Le Boulonnais* in the 1956-57 and 1957-58 editions, and *Le Corse* in the 1955-56 to 1957-58 editions.

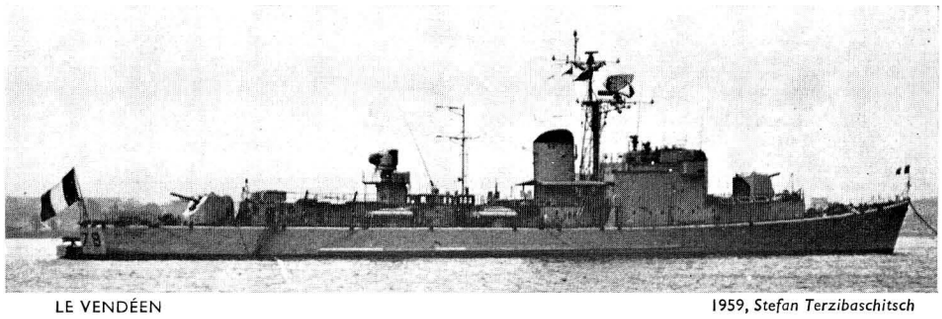
* Dates of entering service, after completion of trials



L'AGENAIS — *Added 1960, French Navy, Official*



L'ALSACIEN — *Added 1960, courtesy M. Henri Le Masson*



LE VENDÉEN — *1959, Stefan Terzibaschitsch*

pennant No.	*Name*	*Programme*	*Builders*	*Laid down*	*Launched*	*Completed**
F 765	*Le Normand*	1952	F. Ch. de la Mediterranee	July 1953	13 Feb. 1954	3 Nov. 1956
F 768	*Le Lorrain*	1952	F. Ch. de la Mediterranee	Feb. 1954	19 June 1954	1 Jan. 1957
F 766	*Le Picard*	1952	A.C. Loire	Nov. 1953	31 May 1954	20 Sep. 1956
F 767	*Le Gascon*	1952	A.C. Loire	Feb. 1954	23 Oct. 1954	29 Mar. 1957
F 770	*Le Champenois*	1952	A.C. Loire	May 1954	12 Mar. 1955	1 June 1957
F 769	*Le Savoyard*	1952	F. Ch. de la Mediterranee	Nov. 1953	7 May 1955	14 June 1956
F 771	*Le Bourguignon*	1952	Penhoët	Jan. 1954	28 Jan. 1956	11 July 1957
F 772	*Le Breton*	1953	Lorient Navy Yard	June 1954	2 Apr. 1955	20 Aug. 1957
F 773	*Le Basque*	1953	Lorient Navy Yard	Dec. 1954	25 Feb. 1956	18 Oct. 1957
F 774	*L'Agenais*	1954	Lorient Navy Yard	Aug. 1955	23 June 1956	May 1958
F 775	*Le Béarnais*	1954	Lorient Navy Yard	Dec. 1955	23 June 1956	18 Oct. 1958
F 776	*L'Alsacien*	1955	Lorient Navy Yard	July 1956	26 Jan. 1957	1959
F 777	*Le Provençal*	1955	Lorient Navy Yard	1955	5 Oct. 1957	1959
F 778	*Le Vendéen*	1955	F. Ch. de la Mediterranee	Mar. 1957	27 July 1957	1959

4 "Le Corse" Class

(E 50 Type)

LE BORDELAIS
LE BOULONNAIS
LE BRESTOIS
LE CORSE

Displacement:	1,290 tons *standard*, 1,528 tons for trials (1,702 tons *full load*)
Dimensions:	311⅔ (*pp.*), 327½ (*o.a.*) × 33¾ × 10 feet
Guns:	6—2·25 inch (57 mm). AA. (twin mounts) 2—20 mm. AA.
A/S weapons:	2 mortars, 1 D.C. rack, 1 sextuple lance-roquettes
Tubes:	12 ASM tubes (four triple) for homing torpedoes. E 50 type have ASM tubes forward
Machinery:	Geared turbines. Parsons or Rateau. S.H.P.: 20,000=27 kts. (*Bordelais*, 29·5 kts. on trials)
Boilers:	2 (500 lbs./sq. in. pressure, 725°F. superheat)
Radius:	4,500 miles at 15 kts.
Complement:	198

Pennant No.	*Name*	*Programme*	*Builders*
F 764	*Le Bordelais*	1950	F. Ch. de la Mediterranee
F 763	*Le Boulonnais*	1950	A.C. Loire
F 762	*Le Brestois*	1949	Lorient Navy Yard
F 761	*Le Corse*	1949	Lorient Navy Yard

Name	*Laid down*	*Launched*	*Completed*
Le Bordelais	May 1952	11 July 1953	7 Apr. 1955
Le Boulonnais	Mar. 1952	12 May 1953	5 Aug. 1955
Le Brestois	Nov. 1951	16 Aug. 1952	19 Jan. 1956
Le Corse	Oct. 1951	5 Aug. 1952	15 Apr. 1955

General Notes

Intended as seagoing convoy escort vessels with a very large radius of action. Designed as Escorteurs Rapides Anti-Sousmarins. Re-rated as Escorteurs de Deuxième Classe in 1951, as Escorteurs in 1953, and as Escorteurs Rapides in 1955. First four laid down are E 50 type, remainder E 52 type. Design stated to resemble closely that of new U.S. DE *Dealey*. *Le Bordelais* has Strombos-Valensi type modified funnel cap.

Gunnery Notes

Le Brestois has a single 3·9 inch automatic AA. gun mounted in place of the after twin mounting for experimental purposes.



LE BORDELAIS — *1957, courtesy M. Henri Le Masson*

FRIGATES (Rated as *Escorteurs*)

Ex-U.S. Destroyer Escort Type

8 "Sénégalais" Class

BAMBARA (ex-*Swearer*, *DE* 186)
KABYLE (ex-*Riddle*, *DE* 185)
MALGACHE (ex-*Baker*, *DE* 190)
SOUDANAIS (ex-*Cates*, *DE* 763)
TOUAREG (ex-*Bright*, *DE* 747)
} *2nd Group*

ALGÉRIEN (ex-*Cronin*, *DE* 107)
SÉNÉGALAIS (ex-*Corbesier*, *DE* 106)
SOMALI (ex-*DE* 111)
} *1st Group*

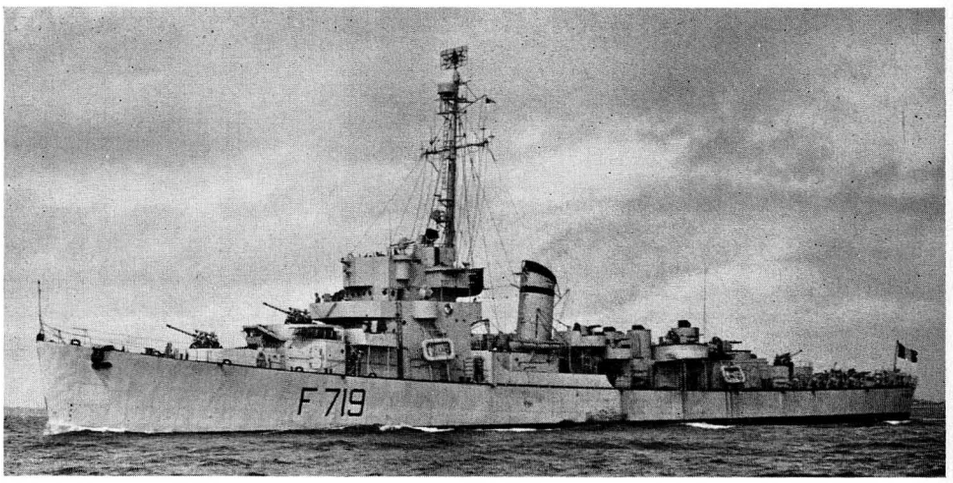
Displacement:	1,300 tons *standard* (1,650 tons *full load*)
Dimensions:	300 (*pp*), 306 (*o.a.*) × 36⅝ × 10⅜ feet
Guns:	*2nd Group*: 3—3 inch dual purpose, 6—40 mm. AA., 18—20 mm. AA. in twin mounts; *1st Group*: 3—3 inch, 3—40 mm., 10—20 mm. (except *Somali*, see *Notes*)
A/S weapons:	All have 1 hedgehog, 8 D.C. mortars, 2 D.C. racks, 126 D.C.
Machinery:	Diesel-electric drive. 4 General Electric diesels. 2 electric motors. 2 shafts. B.H.P.: 6,000=19 kts. (economical speed 12 kts.)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts., 5,500 at 19 kts.
Complement:	150 peace, 185 war

Name	*Builders*
Algérien	Dravo Corporation, Wilmington, Del.
Bambara	Federal S.B. & D.D. Co.
Kabyle	Federal S.B. & D.D. Co.
Malgache	Federal S.B. & D.D. Co.
Sénégalais	Dravo Corporation, Wilmington, Del.
Somali	Dravo Corporation, Wilmington, Del.
Soudanais	Tampa S.B. Co.
Touareg	Western Pipe & Steel Co.

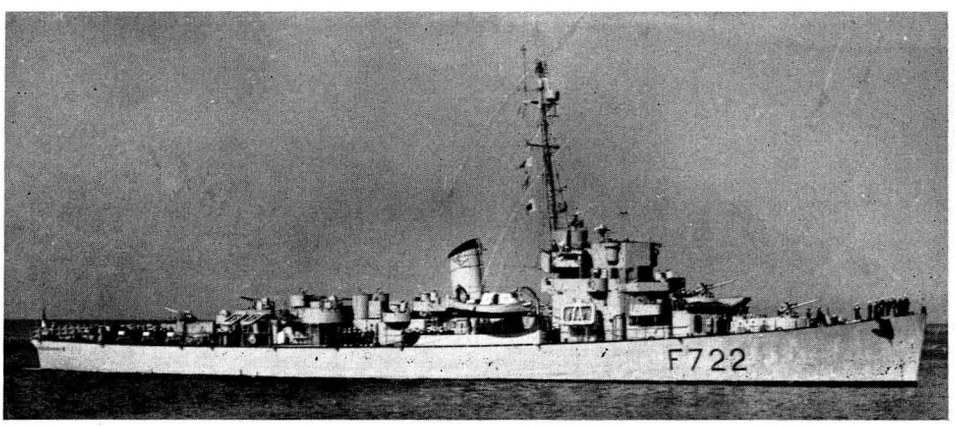
Pennant No.	*Name*	*Launched*	*Completed*
F 701	*Algérien*	27 Nov. 1943	23 Jan. 1944
F 719	*Bambara*	31 Oct. 1943	24 Nov. 1943
F 718	*Kabyle*	17 Oct. 1943	17 Nov. 1943
F 724	*Malgache*	28 Nov. 1943	23 Dec. 1943
F 702	*Sénégalais*	11 Nov. 1943	2 Jan· 1944
A 607	*Somali*	12 Feb 1944	9 Apr. 1944
F 722	*Soudanais*	10 Oct. 1943	15 Dec. 1943
F 721	*Touareg*	26 Sep. 1943	30 June 1944

General Notes
First group acquired in 1944, first of six ships (*Sénégalais*) being commissioned on 2 Jan. 1944. These were formerly rated as Torpilleurs d'Escorte, but re-rated Escorteurs de Deuxième Classe in 1951. Six more *DEs* of same class transferred from U.S.A. in Mar. 1950 under Atlantic Pact. *Arabe* and *Kabyle* turned over to France on 12 Aug. 1950, *Bambara* and *Sakalave* turned over in Sep. 1950, *Soudanais* and *Touareg* delivered in Nov. 1950, all at Philadelphis. *Berbère* and *Malgache* transferred 29 Mar. 1952, at Brooklyn. All re-rated as Escorteurs in 1953.

Gunnery Notes
The first group which had 3—40 mm. and 10—20 mm. have been or are being rearmed (secondary armament) like the second group.



BAMBARA — *Added* 1960, *Wright & Logan*



SOUDANAIS — *Added* 1960, *A. & J. Pavia*

Experimental Notes
Somali was converted into an experimental vessel in 1956 and her armament landed, her pennant number subsequently being changed from F 703 to A 607.

Class Notes
Former United States destroyer escorts of the "Bostwick" class.

Photograph Notes
A photograph of *Somali* appears in the 1957-58 to 1959-60 editions.

Recent Disposals
Sister ships *Hova* (ex-*DE* 110), *Marocain* (ex-*DE* 109) and *Tunisien* (ex-*Crosley*, *DE* 108) of the 1st Group, and *Arabe* (ex-*Samuel S. Miles*, *DE* 183), *Berbère* (ex-*Clarence L. Evans*, *DE* 113) and *Sakalave* (ex-*Wingfield*, *DE* 194) were officially stricken from the list in 1960.

5 Ex-British "River" Type

"L'Aventure" Class

L'AVENTURE (ex-H.M.S. *Braid*)
CROIX DE LORRAINE (ex-H.M.S. *Strule*, ex-*Glenarm*)
AILETTE (ex-*L'Escarmouche*, ex-H.M.S. *Frome*)
LA SURPRISE (ex-H.M.S. *Torridge*)
LA CONFIANCE (ex-*Tonkinois*, ex-H.M.S. *Mayola*)

Displacement:	1,450 tons *standard* (2,150 tons *full load*)
Dimensions:	301½ (*pp.*), 305⅜ (*o.a.*) × 36½ × 12 feet
Guns:	2—4·1 inch, 2 or 3—40 mm., 6 or 8—20 mm. AA., (*La Confiance* has 1—40 mm. AA. in the stern)
A/S weapons:	1 Hedgehog, 4 D.C.T., 2 D.C. racks.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Oil fuel:	645 tons (*Croix de Lorraine*, 440 tons)
Radius:	7,700 miles at 12 kts. 5,600 miles at 16·5 kts. (*Croix de Lorraine* 4,200 miles at 12 kts.)
Complement:	123 peace, 141 war

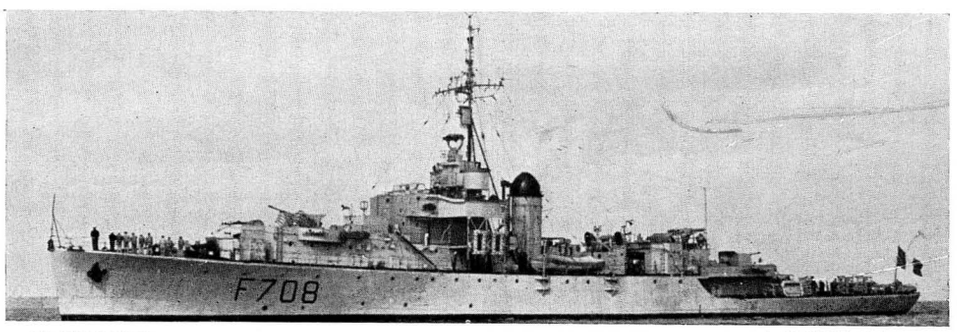
Notes
All ex-British frigates of "River" type, purchased in 1943-44. Lattice masts in *Croix de Lorraine*, *Ailette* and *La Confiance*; tripod in *L'Aventure* and *La Surprise*. Formerly rated as Frégates. Re-rated Escorteurs de Deuxième Classe in 1951 and as Escorteurs in 1953. *Tonkinois* was renamed *La Confiance* in 1953. *L'Escarmouche* was renamed *Ailette* on 1 Jan. 1957 and is now used as a fishery protection vessel in addition to *L'Aventure*.

Pennant No.	*Name*	*Builders*
F 709	*Ailette*	Blyth S.B. & D.D. Co., Ltd.
F 707	*L'Aventure*	Wm. Simons & Co., Ltd.
F 710	*Croix de Lorraine*	Henry Robb, Ltd.
F 708	*La Surprise*	Blyth S.B. & D.D. Co., Ltd
F 711	*La Confiance*	Smith's Dock Co., Ltd.

Name	*Laid down*	*Launched*	*Completed*
Ailette	30 May 1942	1 June 1943	3 Mar. 1944
L'Aventure	1 Dec. 1942	30 Nov. 1943	21 Jan. 1944
Croix de Lorraine	15 July 1942	8 Mar. 1943	30 July 1943
La Surprise	17 Oct. 1942	16 Aug. 1943	6 Apr. 1944
La Confiance	9 Feb. 1942	27 Aug. 1942	15 Jan 1943



AILETTE lattice mast) — 1955 *Skyfotos*



LA SURPRISE — 1954, *Wright & Logan*

Recent Disposals
Sister ship *La Découverte* (ex-H.M.S. *Windrush*) was scrapped in Dec. 1959. Two or three more units of this class will most probably be discarded before the end of 1960.

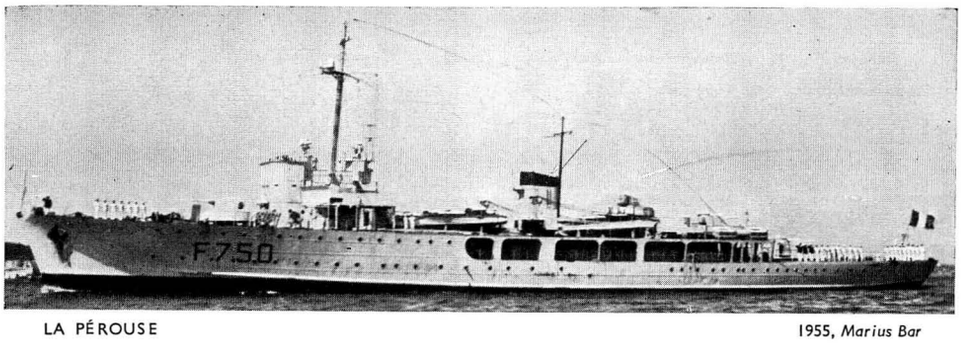
FRIGATES (Rated as *Avisos*)

2 Colonial Type

BEAUTEMPS-BEAUPRÉ (ex-*Sans Souci*)
LA PÉROUSE (ex-*Sans Peur*)

	Beaautemps-Beupre	*La Perouse*
Name:		
Pennant No.:	F 751	F 750
Builders:	Penhoet	Penhoet
Laid down:	1940	1940
Launched:	1941	1941
Completed:	8 May 1947	23 Apr. 1947

Displacement:	1,372 tons *standard* (2,000 tons *full load*)
Dimensions:	311⅔ × 38½ × 10½ feet
Guns:	3—4·1 inch, 2—40 mm. AA., 8—20 mm. AA.
Machinery:	Sulzer diesels. 2 shafts. Speed: 16 kts.
Oil fuel:	230 to 240 tons
Radius:	6,000 miles at 18 kts.; 15,000 miles at 10 kts.
Complement:	144



LA PÉROUSE — 1955, *Marius Bar*

General Notes
Formerly rated as Avisos Coloniaux Hydrographies. Re-rated as Escorteurs de Deuxième Classe (Frigates) early in 1953, as Avisos Escorteurs 11 Aug. 1953, and as Avisos in 1955, although they are normally operated as surveying vessels (Batiments Hydrographies). Reported to be very successful vessels.

Gunnery Notes
The 4·1 inch guns are of the German 105 mm. model.

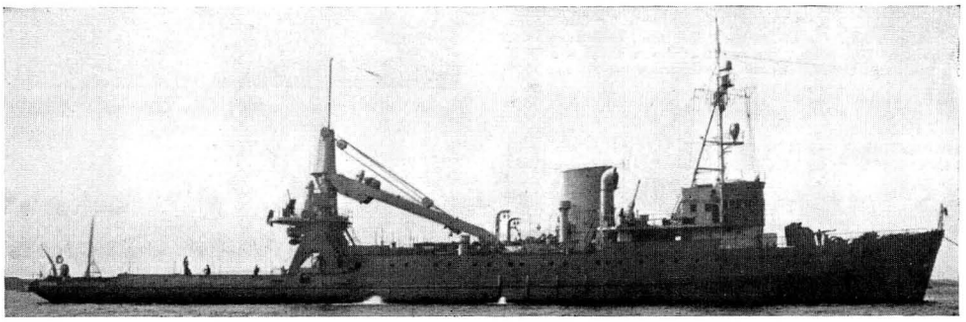
Recent Disposals
Of the colonial sloop type, *Savorgnan de Brazza* was scrapped in 1955, *Dumont d'Urville* was condemned in 1958 and *La Grandiere* was scrapped at the end of 1959.

2 Former Aircraft Tenders (*Depanneurs d'Aviation*)

COMMANDANT ROBERT GIRAUD (ex-German *Immelmann*)
PAUL GOFFENY (ex-German *Max Stinsky*)

	Commandant Robert Giraud	*Paul Goffeny*
Name:		
Pennant No.:	F 755	F 754
Builders:	Norderwerft, Hamburg	Norderwerft, Hamburg
Launched:	1941	1940
Completed:	Dec. 1941	7 Aug. 1941

Displacement:	1,000 tons *standard* (1,380 tons *full load*)
Dimensions:	239 (*pp.*), 246 (*o.a.*) × 36 × 12 feet
Guns:	1—4·1 inch, 2—40 mm. AA., 2—20 mm. AA.
Machinery:	4 M.A.N. diesels. 2 shafts. B.H.P.: 8,800=20·5 kts. (23 kts. on trials)
Oil fuel:	236 tons
Radius:	4,000 miles at 18 kts.; 7,800 miles at 12 kts.
Complement:	77



COMMANDANT ROBERT GIRAUD — 1954, *courtesy M. Henri Le Masson*

General Notes
Former German aircraft tenders. Transferred by Great Britain in Aug. 1946. *Commandant Robert Giraud* is named after a gallant naval officer who lost his life when the destroyer *Bison* was sunk on 3 May 1940. Re-rated as Escorteurs de Deuxième Classe early in 1953, as Avisos Escorteurs on 11 Aug. 1953, and as Avisos in 1955. The above two ships have been used in Indo-China, where they have given yeoman service mainly as patrol and escort vessels, support gunboats and as carriers for commandos, as they are fast and reliable, and have a rather shallow draught, a good armament, and can stow LCV and LCVP aft.

Photograph Notes
Photograph of *Paul Goffeny* in the 1957-58 edition.

Engineering Notes
The four diesels are coupled two by two by hydraulic transmission on two shafts.

1 Ex-Italian Sloop Type (Rated as *Aviso*)

FRANCIS GARNIER (ex-*Eritrea*)

Pennant No:	F 730
Builders:	Castellammare
Laid down:	25 July 1935
Launched:	19 Sep. 1936
Completed:	June 1937

Displacement:	2,172 tons (*standard*, 3,172 tons *full load*)
Dimensions:	251½ (*w.l.*), 274 (*o.a.*) 43⅔ × 11½ (*mean*) feet
Guns:	3—4·7 inch (single forward, twin aft), 4—40 mm. AA., 4—20 mm. AA.
A/S weapons:	2 D.C. mortars, 1 D.C. rack
Machinery:	2 Fiat diesels, with electric drive from 2 Marelli motors. 2 shafts. B.H.P.: 7,800=20 kts.
Oil fuel:	320 tons
Radius:	9,300 miles at 12 kts.; 4,000 miles at 16 kts.
Complement:	184 (peace), 211 (war)



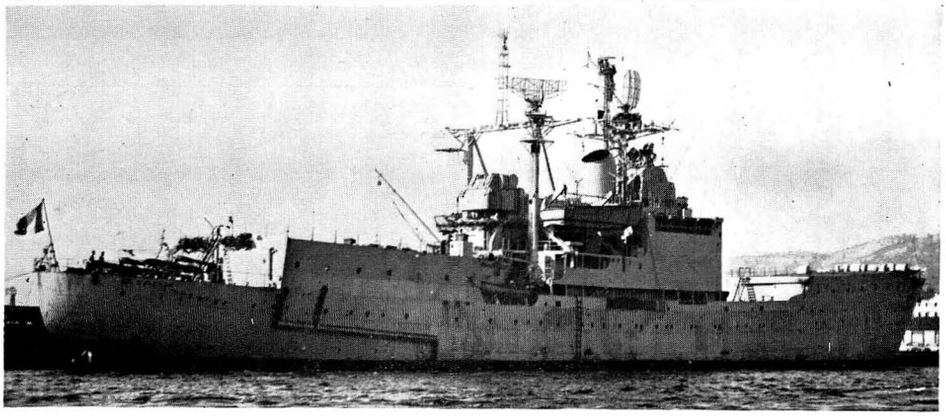
FRANCIS GARNIER — 1954, *Marius Bar*

Notes
Designed by Engineer Major-General Icilio d'Esposito. Fitted for minelaying. Ordered on 8 May 1935. Ex-Italian sloop. Transferred to France under the terms of the Peace Treaty. Extensively overhauled in 1952-53. Formerly rated Aviso de Première Classe. Re-rated Escorteur de Deuxième Classe in 1951, Aviso Escorteur in 1953, and Aviso in 1955.

EXPERIMENTAL GUIDED MISSILE SHIP (Ex-Transport)

ILE D'OLÉRON (ex-*München*, ex-*Mur*)

Displacement:	3,280 tons *standard* (7,500 tons *full load*)
Dimensions:	350 (*pp.*), 377½ (*o.a.*) 50 × 21½ feet
Guns:	Replaced by guided missiles (see *Guided Missile Notes*)
Machinery:	M.A.N. 6-cyl. diesels. 1 shaft. B.H.P.: 3,500=14·5 kts.
Oil fuel:	340 tons
Radius:	7,200 miles at 12 kts.; 5,900 miles at 14 kts.
Complement:	195 (15 officers, 180 men)



ILE D'OLÉRON — 1959, *Marius Bar*

General Notes
This vessel, launched in 1939, and formerly rated as a transport, was an accommodation vessel at Brest until she was converted into an experimental guided missiles ship in 1956-58. She was commissioned as a test bed early in 1959.

Guided Missile Notes
Fitted with 2 launchers for ground to air missiles, the medium range "Mascurca" and the long range "Masalca"; 1 launcher for ship to ship/shore missiles, the "Malaface"; 1 launcher for target planes.

Photograph Notes
Official port quarter view on page 474 (Addenda) of the 1959-60 edition.

SUBMARINES

1 Projected Atomic Powered Type

Q 244

Builders:	Cherburg Naval Dockyard
Displacement:	*circa* 4,000 tons *surface* *circa* 5,000 tons *submerged*
Dimensions:	Length: *circa* 400 feet
Machinery:	Nuclear reactors. Geared steam turbines

Notes

Construction was stopped in 1959 pending negotiations with the United States for the delivery of a nuclear propulsion plant.

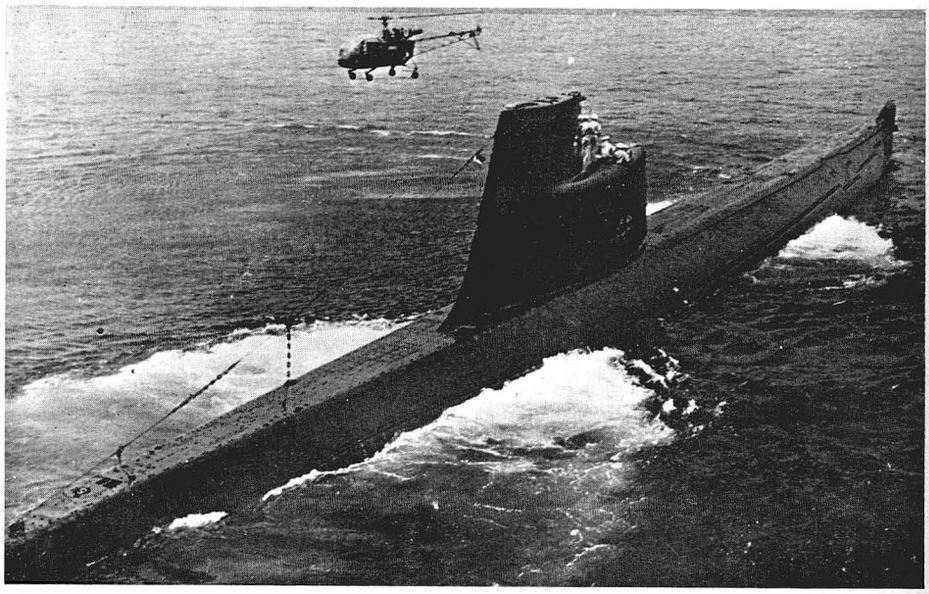
7 New Construction

DAPHNÉ **DORIS** **FLORE** **Q248**
DIANE **EURYDICE** **GALATÉE**

Displacement:	750 tons *standard*. 850 tons *surface*, 1,040 tons *submerged*
Dimensions:	190¼ × 22¼ × 15½ feet
Tubes:	12 (8 bow, 4 stern)
Machinery:	SEMT-Pielstick 12-cyl. engines· Diesel-electric drive. Speed: 16 kts· *surface* and *submerged*
Complement:	46 (6 officers, 40 men)

Notes

Daphné and *Diane* were built by Dubigeon, and *Doris*, *Eurydice*, *Flore* and *Galatée* are being built by Cherbourg. Q 248, provided for under the 1957 naval estimates, is to be built by Dubigeon. The construction of Q249 and Q250 has been abandoned. *Daphné* was launched on 20 June 1959



REQUIN — 1959, *French Navy, Official*

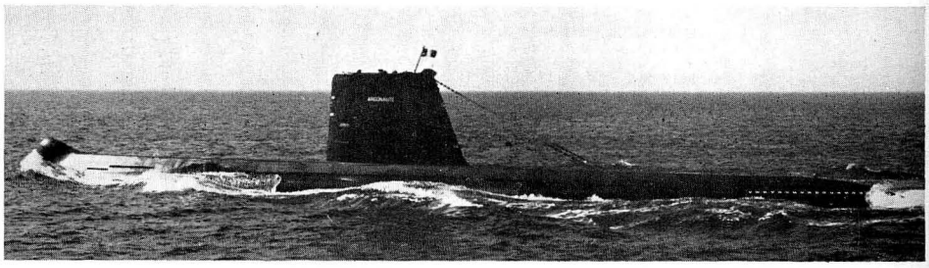
4 "Aréthuse" Class

AMAZONE (3 Apr.1958) **ARGONAUTE** (29 June 1957)
ARÉTHUSE (9 Nov. 1957) **ARIANE** (12 Sep. 1958)

Displacement:	400 tons *standard*, 529 tons *surface*, 634 tons *submerged*
Dimensions:	164 × 19 × 12¾ feet
Tubes:	4
Machinery:	SEMT-Pielstick 12-cyl. diesel engines. Diesel-electric drive=16 kts. *surface*, 16 kts. *submerged*
Complement:	39 (5 officers, 34 men)

General Notes

Submarine-killer type for hunting enemy submarines. *Aréthuse* and *Argonaute* were built under the 1952 programme, *Amazon* and *Ariane* under the 1953 programme, all at Cherbourg. Streamlined hull, silent motors, and up-to-date electronic and detection equipment. Launch dates above. *Argonaute* was commissioned for service on 23 Oct. 1958.



ARGONAUTE — 1959, *French Navy, Official*

6 Oceangoing Type. "Narval" Class

DAUPHIN **MARSOUIN** **NARVAL**
ESPADON **MORSE** **REQUIN**

Displacement:	1,200 tons *standard*, 1,430 tons *surface*, 1,800 tons *submerged*
Dimensions:	256 × 23⅔ × 18 feet
Tubes:	8 (6 interior, 2 exterior) 14 torpedoes
Machinery:	Schneider 2-stroke, 7 cylinder diesels. B.H.P.: 4,000=16 kts. *surface*. Electric motors. H.P.: 5,000=18 kts. *submerged*
Radius:	15,000 miles with schnorchel at 8 kts.
Complement:	58 (7 officers, 51 men)

General Notes

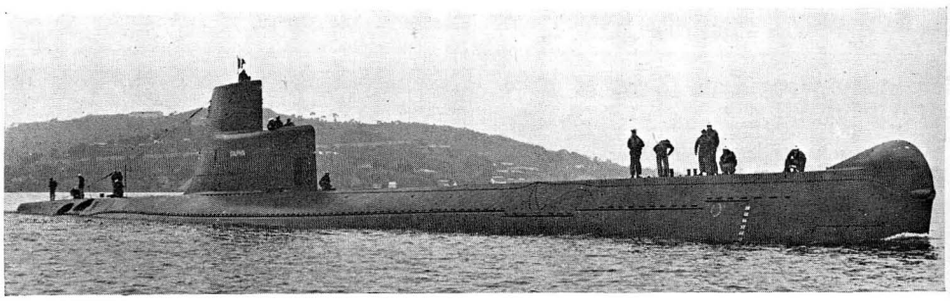
Improved versions of the German XXI type. *Dauphin*, *Marsouin*, *Narval* and *Requin* were built in seven prefabricated parts each of 10 metres in length. *Dauphin* and *Requin* were commissioned for active service on 1 Aug. 1958.

Photograph Notes

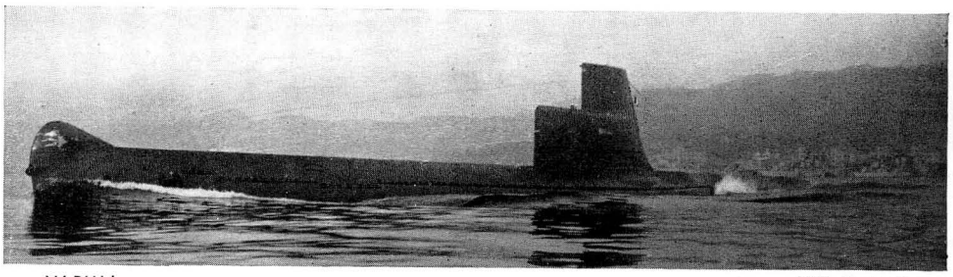
Photographs of *Narval* as launched and as first completed without bulbous bow in 1957-58 edition.

Pennant No.	*Name*	*Programme*	*Builders*
S 633	*Dauphin*	1950	Cherbourg
S 637	*Espadon*	1953	Normand
S 632	*Marsouin*	1949	Cherbourg
S 638	*Morse*	1953	Seine Maritime
S 631	*Narval*	1949	Cherbourg
S 634	*Requin*	1950	Cherbourg

Name	*Laid down*	*Launched*	*Completed*
Dauphin	1952	17 Sep. 1955	1957
Espadon	Mar. 1957	15 Sep. 1958	1959
Marsouin	1951	21 May 1955	1957
Morse	Dec. 1956	10 Dec. 1958	1959
Narval	1951	11 Dec. 1954	1957
Requin	1952	3 Dec. 1955	1957



DAUPHIN — Oct. 1957, *Marius Bar*

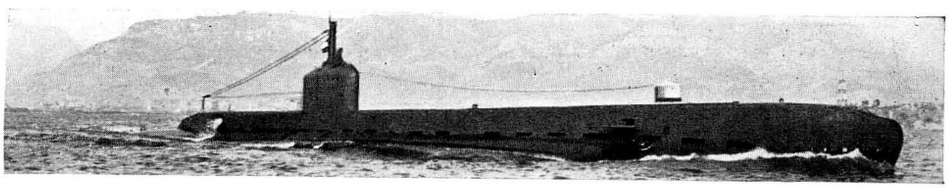


NARVAL — 1957, *Marius Bar*

1 Ex-British "S" Class

SAPHIR (ex-*Satyr*)

Pennant No.:	S 616
Builders:	Scotts' Shipbuilding & Engineering Co. Ltd., Greenock
Laid down:	8 June 1940
Launched:	28 Sep. 1942
Completed:	8 Feb. 1943
Displacement:	715 tons *standard*, 814 tons *surface*, 1,090 tons *submerged*
Dimensions:	217 (*o.a.*) × 23¾ × 10¼ feet
Tubes:	6—21 inch (bow), 13 torpedoes carried
Machinery:	Diesels, B.H.P.: 1,900=14¾ kts. *surface*; Electric motors, H.P.: 1,300 = 12 kts. *submerged*
Oil fuel:	44 tons
Complement:	48



SULTANE — 1953, *Marius Bar*

Notes

Four of this class were transferred from the British Navy to the French Navy in 1951-52. Lent for 4 years for anti-submarine training. *Saphir* is streamlined like *Sultane*. *Siréne* was returned to Great Britain at Gosport on 24 Oct. 1958 and reverted to her original name *Spiteful*, and *Sultane* was returned to Great Britain at Rosyth on 5 Nov. 1959 and reverted to her original name *Statesman*. *Saphir* also will most probably have been returned to Great Britain by the end of 1960. *Sibylle* (ex-*Sportsman*) was lost accidentally with all hands on 23 Sep. 1952, near Toulon.

Submarines—*continued*

5 "Créole" Class

L'AFRICAINE **L'ARTÉMIS** **LA CRÉOLE**
L'ANDROMÉDE **L'ASTRÉE**

Displacement:	820 tons *standard*, 970 tons *surface*, 1,180 tons *submerged*
Dimensions:	235½ (*pp.*), 241 (*o.a.*) × 21½ × 13¾ feet
Guns:	1—3·5 inch (88 mm. ex-German), 2—20 mm. AA. (see notes)
Tubes:	10—21·7 inch (6 internal)
Machinery:	Sulzer diesels (Schneider in *L'Africaine*) B.H.P.: 3,000=17·3 kts. *surface*. Electric Motors H.P.: 1,400 (2,000 H.P. in *L'Andromède*)=10 kts., *submerged*
Oil fuel:	100 tons
Radius:	8,800 miles at 10 kts.
Complement:	62 (7 officers, 55 men)

General Notes
La Créole was towed to England after her launch in 1940, and was returned to her builders in 1946 for completion. Construction of *L'Africaine* and *L'Astrée* was also resumed. *L'Andromède* and *L'Artémis* resumed after 1949 and under 1950 Programmes, respectively, given streamlined superstructure, and snort, no guns. *L'Andromède* is armed with prototype equipment designed for the "Narval" class.

Gunnery Notes
Guns are now suppressed in all units of the class except *Créole*.

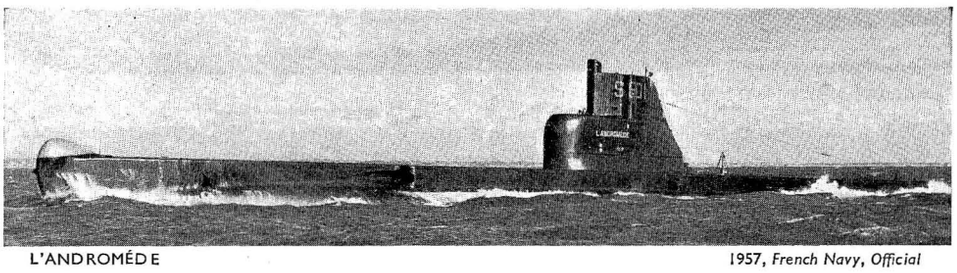
Appearance Notes
After suppression of her gun, the appearance of *Africaine* is identical with that of *Astrée*, it is officially stated in 1960.

Photograph Notes
Photograph of *La Créole* in the 1954-55 to 1957-58 editions. Photograph of *L'Africaine* in the 1953-54 to 1959-60 editions.

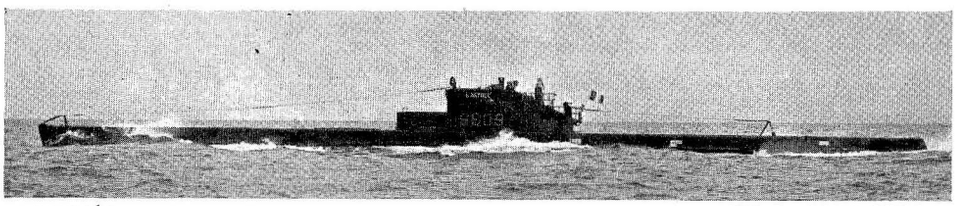
Pennant No.	*Name*	*Programme*	*Builders*
S 607	*L'Africaine*	1937	Worms
S 601	*L'Andromède*	1938	Dubigeon-Nantes
S 603	*L'Artémis*	1938	Normand, Dubigeon
S 608	*L'Astrée*	1938	Dubigeon-Nantes
S 606	*La Créole*	1937	Normand

Name	*Laid down*	*Launched*	*Completed*
L'Africaine	Sep. 1938	7 Dec. 1946	1948
L'Andromède	1945	17 Nov. 1949	1953
L'Artémis	1945	28 July 1952	1953
L'Astrée	1945	4 May 1946	1949
La Créole	Aug 1938	5 June 1940*	1946

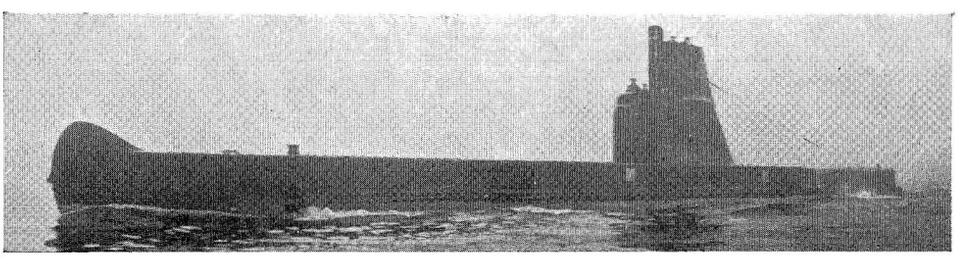
* Re-launched 3 May, 1946.



L'ANDROMÉDE — 1957, *French Navy, Official*



L'ASTRÉE — 1957, *French Navy, Official*



L'ARTÉMIS — 1955, *Marius Bar*

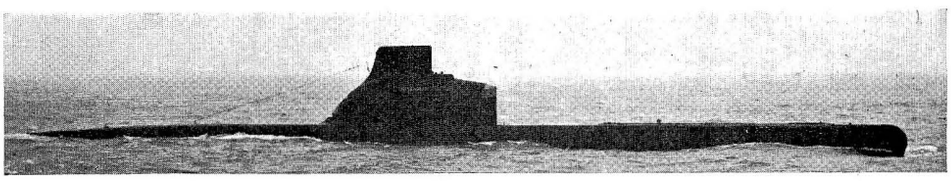
Cancellation Notes
The construction of two new midget submarines, Q224 and Q225, of 30 tons displacement, which were to have been built under the 1956 and 1957 programmes, was abandoned.

Recent Disposals
Of the four ex-German Seehund type "pocket" submarines, S 621 (No. 74) and S 622 (No. 90) were scrapped in 1955, and S 623 (No. 107) and S 624 (No. 365) in 1957.

3 Ex-German Types

ROLAND MORILLOT (ex-*U* 2518)

Displacement:	1,330 tons (*standard*), 1,600 tons (*surface*), 1,827 tons (*submerged*)
Dimensions:	237 (*pp.*), 252⅔ (*o.a.*) × 21⅔ × 20⅔ feet
Tubes:	6—21 inch (23 torpedoes carried)
Machinery:	2 M.A.N. 6-cyl. diesels. B.H.P.: 2,600=15 kts.; 2 electric motors. H.P.: 5,000=16 kts.
Oil fuel:	250 tons
Radius:	11,150 miles at 12 kts.; 16,500 miles at 9 kts.; submerged 365 miles at 5 kts., 30 miles at 15 kts., 9,000 miles at 8 kts. with Schnorkel.
Complement:	65



ROLAND MORILLOT — 1956, *French Navy, Official*

Pennant No.:	S 613
Builders:	Blohm & Voss, Hamburg
Completed:	1945

Notes
Former German oceangoing Type XXI U-boats. Transferred by Great Britain on loan to French Navy.

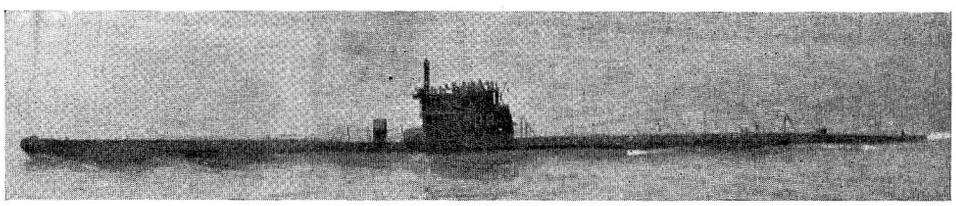
LAUBIE (ex-*U* 766) **MILLÉ** (ex-*U* 471)

Name:	*Laubie*	*Millé*
Pennant No.:	S 610	S 609
Builders:	Blohm & Voss, Hamburg	Deutsche Werke, Kiel
Laid down:	1942	1941
Launched:	Apr. 1943	1942
Completed:	July 1943	1942

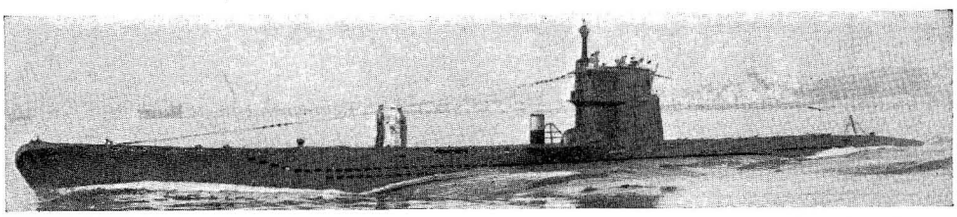
Displacement:	510 tons (*designed*), 750 tons (*surface*), 850 tons (*submerged*)
Dimensions:	220½ × 20⅔ × 15 feet
Tubes:	5—21 inch (14 torpedoes carried)
Machinery:	2 G.W. diesels. B.H.P.: 2,800=17 kts.; 2 Siemens electric motors. H.P.: 750=7·6 kts.
Oil fuel:	107 tons
Radius:	3,450 miles at 17 kts.; 8,400 miles at 10 kts. Submerged: 80 miles at 4 kts.
Complement:	51 (5 officers, 46 men)

General Notes
Former German Type VII C U-boats. Both fitted with snort.

Nomenclature Notes
Laubie and *Millé* are named after French submarine officers who lost their lives in the Second World War



MILLÉ — *Added* 1957, *A. & J. Pavia*



LAUBIE — 1952, *Marius Bar*

Recent Disposals
Blaison (ex-U 123), former German Type IX B, was discarded in 1957.

Bouan (ex-U 510), former German Type IX C, was scrapped in 1958.

CORVETTES (Rated as *Avisos*)

3 Later "Chamois" Class

BISSON
COMMANDANT AMYOT D'INVILLE
COMMANDANT DE PIMODAN

Displacement:	660 tons *standard* (900 tons *full load*)
Dimensions:	257×28½×12 (*max.*) feet
Guns:	1—4·1 inch, 2—40 mm. AA., 4—20 mm. (*Bisson*, 2—4·1 inch aft, 1—40 mm.)
A/S weapons:	6 D.C.T., 2 D.C. racks
Machinery:	2 Sets Sulzer diesels. 2 shafts. B.H.P.:4,000=20 kts.
Radius:	8,000 miles at 10 kts.: 4,800 miles at 15 kts.; 3,000 miles at 18 kts.
Oil fuel:	82 tons
Complement:	100 (8 officers, 92 men)

General Notes

Authorised under the 1938 programme. *Bisson* is attached to the Pilotage School as a pilot's training vessel. The other two ships of the later "Chamois" class (see above) and the two remaining ships of the early "Chamois" class (see below) were allocated to the Naval School in 1957 for the raining of cadets.



COMMANDANT AMYOT D'INVILLE — 1955, *Marius Bar*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 737	*Bisson*	Lorient Dockyard	1939	5 Mar. 1946	Sep. 1947
F 738	*Commandant Amyot D'Inville*	Ch. Dubigeon Penhoët	1939	13 May 1942	Dec. 1947
F 739	*Commandant de Pimodan*	A.C. Loire, St. Nazaire	1939	29 May 1942	Oct. 1947

2 Early "Chamois" Class

CHAMOIS (ex-*Annamite*) **GAZELLE**

Name:	*Chamois*	*Gazelle*
Pennant No.:	F 734 ...	F 736
Builders:	Lorient Dockyard	Lorient Dockyard
Laid down:	Apr. 1938	Apr. 1937
Launched:	17 June 1939	17 June 1939
Completed:	Feb. 1940	Oct. 1939

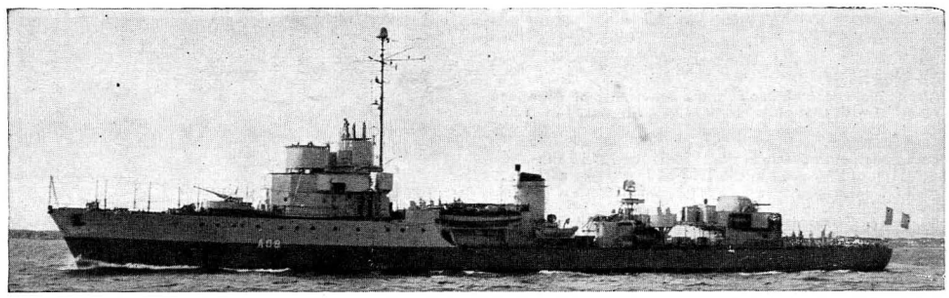
Displacement:	647 tons *standard* (920 tons *full load*)
Dimensions:	257×28½×10½ feet
Guns:	2—4·1 inch 1—40 mm., 6—20 mm.
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	Sulzer diesels. 2 shafts. B.H.P.: 4,000=20 kts.
Radius:	10,000 miles at 9 kts. 5,200 miles at 15 kts.
Oil fuel:	100 tons
Complement:	100 (8 officers, 92 men)

General Notes

Gazelle was built under the 1935 programme, and *Chamois* under that for 1937. Formerly rated Avisos de Duexième Classe, but re-rated Escorteurs de Deuxième Classe in 1951, Avisos Escorteurs on 11 Aug. 1953, and Avisos in 1955. Both above and following class have amply demonstrated their qualities in both war and peacetime service on Indo-Chinese coasts, being robust, reliable and handy, and can be relied on ndefinitely at sea. *Annamite* was renamed *Chamois* in 1953.

Transfer Notes

Sister ship *Chevreuil* was transferred to the Tunisian Navy on 13 Oct. 1959.



GAZELLE — 1950, *French Navy, Official*

4 "Elan" Class

COMMANDANT DELAGE
COMMANDANT DOMINÉ (ex-*La Rieuse*)
COMMANDANT DUBOC
LA MOQUEUSE

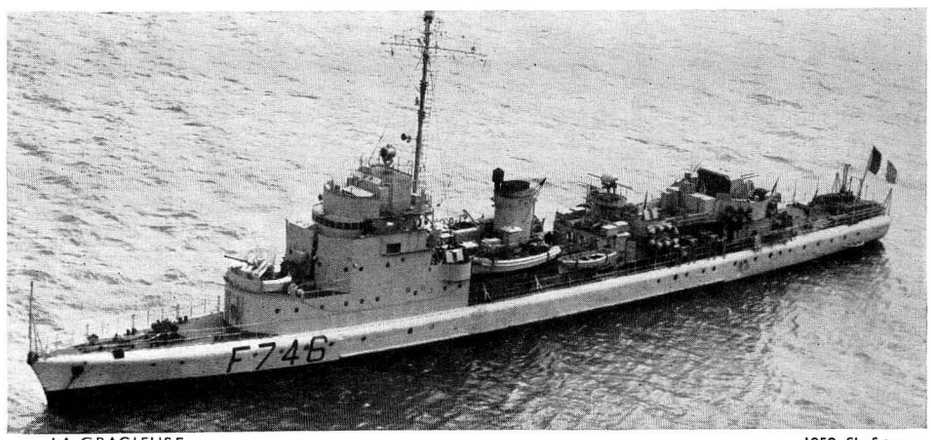
Displacement:	640 tons *standard* (900 tons *full load*)
Dimensions:	256×28×10½ feet
Guns:	*Commandant Delage*, 1—4·1 inch, 1—40 mm. AA., 6—20 mm. AA., 2 M.G.; *Commandant Domine*, *Commandant Duboc* and *La Moqueuse*, 1—4·1 inch AA., 1—40 mm. AA., 4—20 mm. AA.
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	2 sets Sulzer diesels. 2 shafts. B.H.P.: 4,000=20 kts.
Oil fuel:	105 tons
Radius:	10,000 miles at 9 kts., 5,200 miles at 15 kts., 3,000 miles at 18 kts.
Complement:	100

General Notes

Commandant Delage and *Commandant Duboc* were built under the 1936 Programme. *Commandant Domine* and *La Moqueuse* were built under the 1937 Programme. Formerly rated as Avisos de Deuxième Classe. Re-rated Escorteurs de Deuxième Classe in 1951, Avisos Escorteurs on 11 Aug. 1953, and Avisos in 1955. All now have 4·1 inch guns (German model).

Recent Disposals

Commandant Bory of this class was scrapped in 1953. Sister ships *Elan*, *La Boudeuse*, *La Capricieus* and *La Gracieuse* were condemned in 1958.



LA GRACIEUSE — 1958, *Skyfotos*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
F 741	*Commandant Delage*	At. et Ch. de France	Nov. 1936	25 Feb. 1939	Dec. 1939
F 742	*Commandant Dominé*	Ch. Dubigeon	Feb. 1938	2 May 1939	Apr. 1940
F 743	*Commandant Duboc*	Ch. Dubigeon	Dec. 1936	16 Jan. 1939	Aug. 1939
F 747	*La Moqueuse*	Lorient Dockyard	Sep. 1938	25 Jan. 1940	Apr. 1940

SUBMARINE DEPOT SHIP (*Ravitailleur-pour-Sousmarins*)

Ex-German Type

GUSTAVE ZÉDÉ (ex-*Saar*)

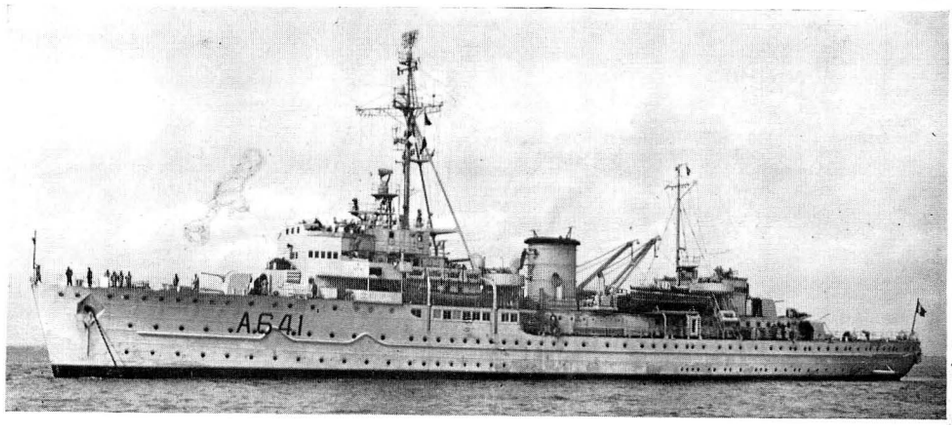
Builders:	Krupp-Germania
Launched:	5 Apr. 1934
Displacement:	2,895 tons *standard* (3,230 tons *full load*)
Dimensions:	308×44¼×14 feet
Guns:	3—4·1 inch, 4—40 mm. AA., 8—20 mm. AA.
Machinery:	2 sets Krupp diesels. 2 shafts. B.H.P.: 3,700=16 kts.
Fuel:	336 tons
Radius:	9,400 miles at 11 kts.
Complement:	364

Notes

Former German submarine school depot ship. Acquired from the U.S. Navy in Oct. 1947. Recommissioned in 1949. Alterations were made to the bridge and foremast in 1952 (see photo). Flagship of the G.A.S.M. or Groupe d'action anti-submarine (Anti-submarine Group).

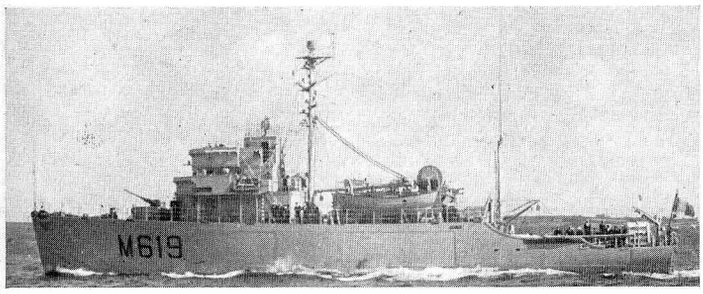
Recent Disposal

The ex-submarine depot ship *Jules Verne*, recently employed as a fleet repair ship and a port depot ship, was scrapped in 1960.



GUSTAVE ZÉDÉ — *Added* 1960, *Wright & Logan*

OCEAN MINESWEEPERS (*Drageurs Oceaniques*)



VINH LONG — *Added 1960, courtesy Admiral M. Adam*

15 U.S. MSO (ex-AM) Type

ALENÇON (ex-*AM 453*)
AUTUN (ex-*AM 502*)
BACCARAT (ex-*AM 505*)
BERLAIMONT (ex-*AM 500*)
BERNEVAL (ex-*AM 450*)
BIR HACHEIM (ex-*AM 451*)
CANTHO (ex-*AM 476*)
COLMAR (ex-*AM 514*)
DOMPAIRE (ex-*AM 454*)
GARIGLIANO (ex-*AM 452*)
MYTHO (ex-*AM 475*)
NARVIK (ex-*AM 512*)
ORIGNY (ex-*AM 501*)
OUISTREHAM (ex-*AM 513*)
VINH LONG (ex-*AM 477*)

Displacement:	700 tons *standard* (795 tons *full load*)
Dimensions:	165 (*w.l.*), 171 (*o.a.*) × 35 × 10½ feet
Guns:	1—40 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,600=13·5 kts. (designed), 14 kts. on trials
Radius:	3,000 miles at 10 kts.
Complement:	54

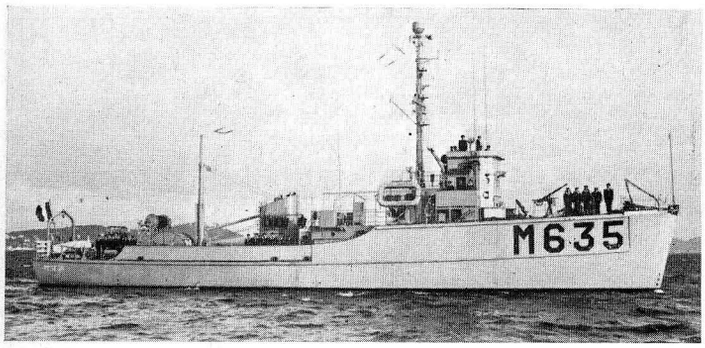
General Notes
The U.S.A. agreed in Sep. 1952 to transfer to France in 1953 eight new AM, and four more in 1954. Three more were transferred in 1956. *Bir Hacheim* was transferred in Feb. 1954, *Garigliano* was transferred in Apr. 1954 and *Vinh Long* in 1955. *Origny* was launched on 25 Feb. 1955, *Autun* on 6 May 1955, *Baccarat* on 6 Aug. 1955 and *Berlaimont* on 7 Jan. 1955.

Appearance Notes
Autun, *Baccarat*, *Berlaimont*, *Colmar*, *Narvik*, *Origny* and *Ouistreham* are somewhat different from the others (photo of *Alençon* in 1958-59 edition) and have a taller funnel.

Research Notes
Origny is now classified and fitted as an oceanographic research vessel but is Navy manned.

Photograph Notes
Larger photographs of this class appear:—an aerial port quarter view of *Garigliano* in the 1955-56 edition, a broadside surface view of *Alençon* in the 1956-57 to 1958-59 editions, and a starboard bow view of *Narvik* in the 1959-60 edition.

COASTAL MINESWEEPERS (*Dragueurs Côtiers*)



RÉSÉDA — 1957, *Marius Bar*

30 U.S. MSC (ex-AMS) Type
"Acacia" Class

ACACIA (ex-*AMS 69*)
ACANTHE (ex-*AMS 70*)
ACONIT (ex-*AMS 66*)
AJONC (ex-*AMS 71*)
AZALÉE (ex-*AMS 67*)
BEGONIA (ex-*AMS 83*)
BLEUET (ex-*AMS 116*)
CAMÉLIA (ex-*AMS 68*)
CHRYSANTHEME (ex-*AMS 113*)
COQUELICOT (ex-*AMS 84*)
CYCLAMEN (ex-*AMS 119*)
EGLANTINE (ex-*AMS 117*)
GARDÉNIA (ex-*AMS 114*)
GIROFLÉE (ex-*AMS 85*)
GLAIEUL (ex-*AMS 120*)
GLYCINE (ex-*AMS 118*)
JACINTHE (ex-*AMS 115*)
LAURIER (ex-*AMS 86*)
LILAS (ex-*AMS 93*)
LISERON (ex-*AMS 98*)
LOBELIA (ex-*AMS 96*)
MAGNOLIA (ex-*AMS 87*)
MARGUERITE (ex-*AMS 94*)
MIMOSA (ex-*AMS 99*)
MUGUET (ex-*AMS 97*)
PAVOT (ex-*AMS 124*)
PERVENCHE (ex-*AMS 141*)
PIVOINE (ex-*AMS 125*)
RENONCULE (ex-*AMS 142*)
RÉSÉDA (ex-*AMS 126*)

Displacement:	370 tons *standard* (405 tons *full load*)
Dimensions:	136½ (*pp.*), 141 (*o.a.*) × 26 × 8⅔ feet
Guns:	2—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,200=13 kts. (8 kts. when sweeping)
Oil fuel:	40 tons
Radius:	2,500 miles at 10 kts.
Complement:	38 (3 officers, 35 men)

General Notes
The U.S.A. agreed in Sep. 1952 to transfer to France in 1953, 36 new AMS (later re-designated MSC) but 30 only were finally allocated to France in 1953-55. Three were returned to the U.S.A. after delivery, to Saigon for Indo-China, and two of these were allocated to Japan (AMS 95 and 144). Three (AMS 139, 140, 143) were not delivered, having been allocated to Spain. Auxiliary motor minesweepers of wooden construction. New type of vessel constructed throughout of materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. All "Flower" names, some of which had been given to the corvettes under the Free French flag: *Aconit* (which sank two submarines), *Labelia*, *Mimosa*. *Glycine* perpetuates the name of ex-YMS of the U.S.A. which was mined and sunk in Indo-China with *Myosotis*.

Building Notes
Acacia was launched on 28 Mar. 1953, *Aconit* on 27 Mar. 1953, and *Azalée* on 9 June 1953.

Photograph Notes
A larger port broadside view of *Coquelicot* appears in the 1954-55 to 1959-60 editions.

Coastal Minesweepers—*continued*



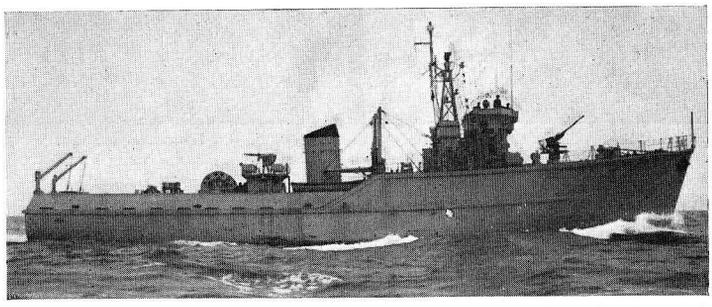
LA DUNKERQUOISE — *courtesy M. Henri Le Masson*

6 Ex-Canadian "Bay" Type
"Bayonnaise" Class

	Launched
LA BAYONNAISE (ex-*Chignecto*)	12 May 1952
LA DIEPPOISE (ex-*Chaleur*)	21 June 1952
LA DUNKERQUOISE (ex-*Fundy*)	Apr. 1953
LA LORIENTAISE (ex-*Miramichi*)	1953
LA MALOUINE (ex-*Cowichan*)	12 Nov. 1951
LA PAIMPOLAISE (ex-*Thunder*)	17 July 1952

Displacement:	390 tons *standard* (412 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 8⅔ feet
Guns:	1—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,400=16 kts. (*max.*)
Oil fuel:	52 tons
Radius:	4,500 miles at 11 kts.
Complement:	43 (4 officers, 39 men)

Notes
Launch dates above. *La Bayonnaise*, *La Malouine* and *La Paimpolaise* were transferred to the French flag at Halifax on 1 Apr. 1954, *La Dunkerquoise* on 30 Apr. 1954, and *La Dieppoise* and *La Lorientaise* on 10 Oct. 1954. All similar to the "Bay" class in the Royal Canadian Navy.



VEGA — *courtesy M. Henri Le Masson*

34 British Type
"Sirius" Class

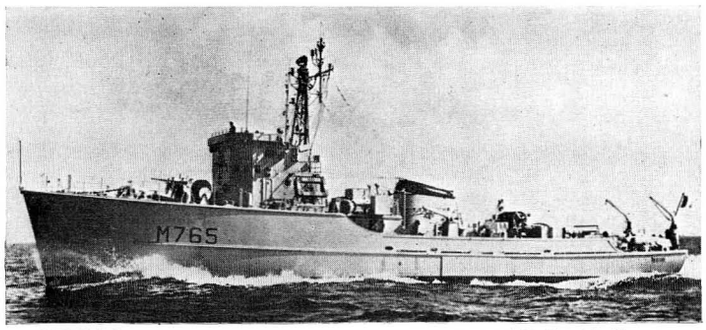
ACHERNAR (12 Aug. 54)
ALDÉBARAN (27 June 53)
ALGOL (15 Apr. 53)
ALTAIR (27 Mar. 56)
ANTARÉS (21 Jan. 54)
ARCTURUS (12 Mar. 54)
ARIES (13 Mar. 56)
BELLATRIX (21 July 55)
BÉTELGEUSE (12 July 54)
CANOPUS (31 Dec. 55)
CAPELLA (6 Sep. 55)
CAPRICORNE (8 Aug. 56)
CASSIPOÉE (16 Nov. 53)
CASTOR (19 Nov. 53)
CENTAURE (8 Mar. 55)
CÉPHÉE (3 Jan. 56)
CROIX DU SUD (13 June 56)
DÉNEBOLA (12 July 56)
ERIDAN (18 May 54)
ETOILE POLAIRE (5 Mar. 57)
FOMALHAUT (24 Apr. 55)
LYRE (3 May 56)
ORION (20 Nov. 53)
PEGASE (21 June 55)
PERSÉE (23 May 55)
PHÉNIX (23 May 55)
POLLUX (16 July 54)
PROCYON (12 Dec. 54)
RÉGULUS (18 Nov. 52)
RIGEL (13 May 53)
SAGITTAIRE (12 Jan. 55)
SIRIUS (6 Oct. 52)
VEGA (14 Jan. 53)
VERSEAU (26 Apr. 56)

Displacement:	365 tons *standard* (424 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 8¼ feet
Guns:	1—40 mm. Bofors AA., 1—20 mm. Oerlikon AA. (Several have 2—20 mm. AA.)
Machinery:	S.I.G.M.A. free piston generators and Alsthom or Rateau-Bretagne gas turbines. 2 shafts. B.H.P.: 2,000=15 kts. (11·5 kts. when sweeping)
Oil fuel:	48 tons
Radius:	3,000 miles at 15 kts.
Complement:	38

Notes
Of wooden and aluminium alloy construction. Launch dates above. Of same general characteristics as the British "Coniston" class, but of different hull construction. Propelled by a special new type of engine, i.e. Alsthom or Rateau gas turbine with S.I.G.M.A. free piston generator, except *Altair*, *Arcturus*, *Aries*, *Bételgeuse*, *Canopus*, *Capella*, *Capricorne*, *Céphée*, *Croix du Sud*, *Etoile Polaire*, *Lyre*, *Phénix* and *Verseau*, which have Pielstick-SEMT light diesels. Similar to those built in Great Britain and the Netherlands of which the plans were basically similar for all. The original design of this type of craft was developed in close collaboration with John I. Thornycroft & Co. Ltd., Southampton, and the British Admiralty. 16 of these vessels were built under the "off-shore" procurement programme. Launch dates as above. *Canopus* was station-ship in the West Indies in 1958-59. *D 25*, *D 26* and *D 27* were allocated to Yugoslavia.

Photograph Notes
A large starboard bow view of *Régulus* appears in the 1957-58 to 1959-60 editions.

Coastal Minesweepers—*continued*



MERCURE — *courtesy M. Henri Le Masson*

1 Special Type

MERCURE (21 Dec. 1957)

Displacement:	333 tons *light*, 362 tons *normal* (380 tons *full load*)
Dimensions:	137¾ (*pp.*), 145½ (*o.a.*) × 27 × 8½ feet
Guns:	1—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. Kamewa variable pitch propellers. B.H.P.: 4,000=15 kts.

Notes
Ordered in France from Mécaniques de Normandie (who have built six sister ships for the Federal German Navy) under the " off-shore " programme. Laid down in Jan. 1955. Somewhat different from the " Sirius " class and with the same method of construction as the United States-built " Acacia " class.



CAMPANULE — *French Navy, Official*

13 Ex-U.S. YMS Type " Amarante " Class

AMARANTE (ex-*D* 301, ex-*YMS* 169)
ANÉMONE (ex-*D* 311, ex-*YMS* 34)
ASPHODÈLE (ex-*D* 314, ex-*YMS* 226)
BASILIC (ex-*D* 317, ex-*YMS* 13)
CAMPANULE (ex-*D* 321, ex-*YMS* 36)
CLEMATITE (ex-*D* 323, ex-*YMS* 62)
GENÈT (ex-*D* 355, ex-*D* 272, ex-*YMS* 208)
HÉLIOTROPE (ex-*D* 334, ex-*YMS* 33)
HORTENSIA (ex-*D* 333, ex-*YMS* 27)
JASMIN (ex-*D* 385, ex-*YMS* 29)
PERCE-NEIGE (ex-*D* 351, ex-*D* 201, ex-*YMS* 23)
PIMPRENELLE (ex-*D* 352, ex-*D* 211, ex-*YMS* 26)
PRIMEVERE (ex-*D* 353, ex-*D* 212, ex-*YMS* 31)

Displacement:	280 tons *standard* (325 tons *full load*)
Dimensions:	134½ × 24½ × 12 feet
Guns:	1—3 inch d.p., 2—20 mm. AA., 2 M.G. (only 4—20 mm. AA. in *Heliotrope*, *Jasmin*, *Perce-Neige*)
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 1,000=12 kts (10 kts. when sweeping)
Oil fuel:	22 tons
Radius:	2,500 miles at 10 kts.
Complement:	30 (2 officers, 28 men)

General Notes
Built of wood. *Basilic* was launched on 13 June 1942, *Gentiane* on 1 Nov. 1941, *Jasmin* on 10 Apr. 1942. All acquired in 1954. *Anémone* is an experimental vessel, fitted with an A/S torpedo tube aft. *Marjolaine* was converted into a hydrographic vessel in 1957. She has been reclassified as a patrol vessel similar to *Lotus* and *Tiaré*, and is used on surveying off Madagascar (see next page).

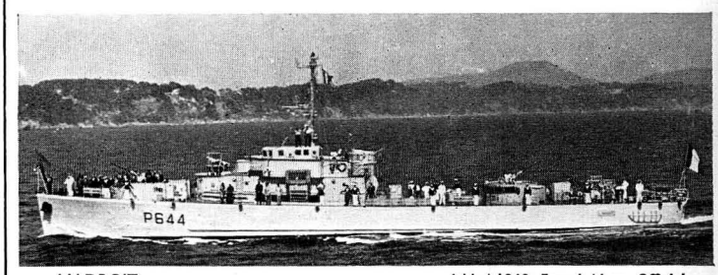
Appearance Notes
All have 2 funnels except *Amarante* and *Genèt*, which have a single funnel.

Class Notes
Glycine (ex-*D* 332, ex-*YMS* 18) and *Myosotis* (ex-*D* 338, ex-*YMS* 15) were sunk by mines in Indo-China in 1949. *Lotus* and *Tiaré* were reclassified as patrol vessels in 1951. *Petunia* and *Zinnia* were reclassified as patrol vessels in 1957, see next page.

Transfer Notes
Aubergine, *Belladone* and *Digitale* were transferred to the Vietnamin Navy on 11 Feb. 1954, and renamed *Ham Tu*, *Bach Dong* and *Chuong Dong*, respectively.

Recent Disposals
Capucine and *Geranium* were scrapped in 1955. *Armoise*, *Balsamine* and *Dahlia* were scrapped in 1959. *Gentiane* was condemned in 1960.

PATROL VESSELS (*Escorteurs Côtiers*)



L'ADROIT — *Added 1960, French Navy, Official*

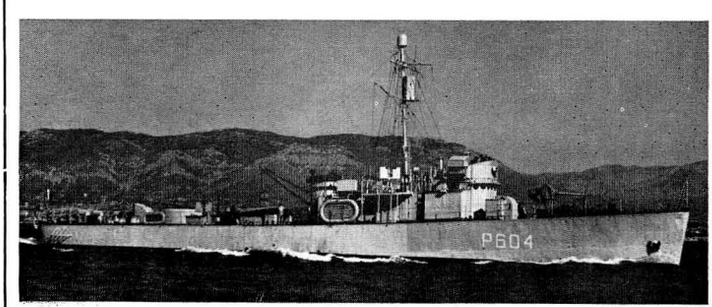
14 " Le Fougueux " Class

L'ADROIT (6 Sep. 1958)
L'AGILE (26 June 1954)
L'ALERTE (1958)
L'ATTENTIF (10 July 1958)
L'ARDENT (17 July 1958)
L'EFFRONTÉ (27 Jan. 1959)
L'ENJOUÉ
L'ETOURDI (5 Feb. 1958)
LE FOUGUEUX (31 May 1954)
LE FRINGANT (6 Feb. 1958)
LE FRONDEUR (26 Feb. 1959)
LE HARDI (17 Sep. 1958)
LE INTRÉPIDE (12 Dec. 1958)
L'OPINIATRE (4 May 1954)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*) × 23 × 6½ feet
Guns:	2—40 mm. Bofors AA., 2—20 mm. AA.
A/S weapons:	1 hedgehog, 4 D.C. mortars (and 2 D.C. racks), Asdic in *L'Agile*, *Le Fouguex*, *L'Opiniatre*; others have a new 120 mm. ASM mortar forward, 2 D.C.T., 1 D.C. rack
Machinery:	4 Pielstick-SEMT light and fast diesel engines coupled 2 by 2. B.H.P.: 3,240=18·7 kts. (22 kts. on trials)
Radius:	3,000 miles at 12 kts., 2,000 miles at 15 kts.
Complement:	62 (4 officers, 58 men)

General Notes
Three of nine patrol vessels ordered in France (U.S.A. offshore order) were commissioned by the French Navy. *P* 1 (*Le Fougueux*), *P* 2 (*L'Opiniatre*), *P* 3 (*L'Agile*). Five more were built under the 1955 naval estimates and six were built under the 1956 estimates. These have a different armament, slightly different appearance, and bridge which bears a resemblance to that of *Guepratte* and *Forbin*, though smaller.

Photograph Notes
Larger photographs of *Le Fougueux*, port broadside and starboard bow views, appear in the 1956-57 and 1957-58 editions, and a larger photograph of *L'Opiniatre* appears in the 1958-59 and 1959-60 editions.



COUTELAS — *Added 1959, Marius Bar*

5 Ex-U.S. PC Type. " Carabinier " Class

CIMETERRE (ex-*PC* 1250)
COUTELAS (ex-*PC* 1560)
DAGUE (ex-*PC* 1561)
FANTASSIN (ex-*PC* 621)
HUSSARD (ex-*PC* 1235)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA. (latter armament varies from 3 to 6—20 mm. AA.)
A/S weapons:	2 D.C.T. (24 D.C.)
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 3,600=20 kts. (18·5 kts. at *full load*)
Fuel:	60 tons
Radius:	6,000 miles at 10 kts., 2,300 miles at 18 kts.
Complement:	63

General Notes
Of steel construction. *Coutelas* was launched on 4 Feb. 1944 and *Hussard* on 3 Apr. 1943. Formerly rated as Escorteurs, but re-rated as Patrouilleurs in 1951. *Ardent*, *Flamberge*-*Glaive*, *Impetueux*, *Inconstant*, *Intrepide*, *Mousquet* and *Trident*, ex-American *PCs*, were trans, ferred by U.S.A. in 1951 and sent to Indo-China. *Hué*, *Luang-Prabang* and *Pnom-Penh* (ex-*PC* 796-798), formerly U.S. Navy submarine chasers, were purchased in 1950 by the French Government and fitted out in Seattle for service in French Indo-China. Remainder were acquired from U.S.N. in 1944. *Hussard* is fitted for torpedo tube training. *Attentif*, *Cavalier* (ex-*PC* 627), *Franc Tireur*, *Javelot* and *Resolu* were discarded in 1951. *L'Effronté* (ex-*PC* 481) was scrapped in 1953. *Volontaire*, much damaged after she had grounded, was reduced to a hulk. *L'Impetueux*, loaned to Marine Royale Khmére, was returned to the U.S. Navy in 1956. *Mousquet* was transferred to Viet Nam in June 1955, *L'Intrepide* in 1956. *Pnom-Penh* was discarded in 1955. *Flamberge* and *L'Incantant* were transferred to Marine Royale Khmére (Cambodia) in 1955-56. *L'Ardent*, *Glaive* and *Trident* were transferred to Viet Nam in 1955-56. *Carabinier*, *Grenadier*, *Legionnaire*, *Mameluck* and *Tirailleur* were condemned in 1957-58. *Dragon*, *L'Emporte*, *L'Indiscret*, *Lansquenet*, *Pique*, *Le Rusé*, *Spahi* and *Le Vigilant* were scrapped in 1959. *L'Eveille*, *Lancier*, *Sabre* and *Voltigeur* were scrapped in 1960, and several more, including *Dague*, may be scrapped before the end of the year. *Hussard*, which was fitted for torpedo tube training aft (see photograph in the 1954-55 to 1959-60 editions), is now classed as a tender with the auxiliary pennant number A 624.

Photograph Notes
A larger photograph of *Hussard* (broadside view) appears in the 1954-55 to 1959-60 editions

Transfer Notes
Goumier was transferred to the Moroccan Navy on 15 June 1960 and renamed *Agadir*.

Patrol Vessels—*continued*
Escorteurs Cotiers

3 Ex-U.S. YMS Type

TIARÉ (ex-*Petunia*, ex-*M* 646, ex-*D* 355, ex-D 271, ex-*YMS* 207)

LOTUS (ex-*Zinnia*, ex-*M* 652, ex-*D* 356, ex-*D* 273, ex-*YMS* 227)

MARJOLAINE (ex-*D* 337, ex-*YMS* 69)

Displacement:	280 tons *standard* (325 tons *full load*)
Dimensions:	134½ × 24½ × 12 feet
Guns:	1—3 inch, d.p., 2—20 mm. AA., 2 M.G.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	36 tons
Radius:	3,700 miles at 10 kts.
Complement:	34 (3 officers, 31 men)

General Notes

Built of wood. Acquired from the United States in 1944. Formerly rated as minesweepers. *Lotus* and *Tiaré* were re-rated as patrol vessels in 1957. Same type as ex-American minesweepers of "Amarante" class above. They have been stationed at Tahiti and Caledonia. The former *Petunia* and *Zinnia* were refitted as patrol vessels at Brest in 1956; they left Brest for their stations 26 Feb. 1957, and were renamed *Tiaré* and *Lotus*, respectively, in 1957, with the pennant numbers P 659 and P 658. They replaced the former *Lotus* (ex-*D* 29, ex-*D* 324, ex-*YMS* 43) and *Tiaré* (ex-*D* 30, ex-*D* 353, ex-*YMS* 63) which formerly served on those stations and which were scrapped.

Reclassification Notes

Marjolaine was reclassified as a patrol vessel in 1959 with the pennant number P 656 and is used for surveying off Madagascar.

LANDING SHIPS DOCK

1 New Construction LSD
(Transport de chalands de débarquement)

TDC 60

Displacement:	8,500 tons *full load*
Dimensions:	489 × 70½ × 15 feet
Guns:	6—30 mm. AA., 2—4·7 inch mortars
Machinery:	Diesels. 2 shafts. B.H.P.: 8,000=17 kts.
Radius:	8,000 nautical miles at 15 kts.

Notes

To be built at Brest Dockyard. Scheduled to be completed in 1964. To be fitted, beside landing craft, with heavy helicopters. All the above details were officially furnished by the French Navy.



FOUDRE 1959, *R. M. Scott*

1 Ex-U.S. LSD

FOUDRE (ex-Greek *Okeanos*, ex-British *Oceanway*, ex-U.S. *LSD* 12)

Displacement:	4,500 tons *standard* (7,930 tons *full load*)
Dimensions:	457¾ (*o.a.*) × 72 × 18 feet
Guns:	1—4·1 inch, 2—4·7 inch mortars, 4—40 mm. AA., 4—20 mm. AA.
Machinery:	Turbine. 2 shafts. H.P.: 7,400=17 kts.
Boilers:	2
Radius:	8,000 miles at 15 kts.
Complement:	212 (12 officers, 200 men)

Notes

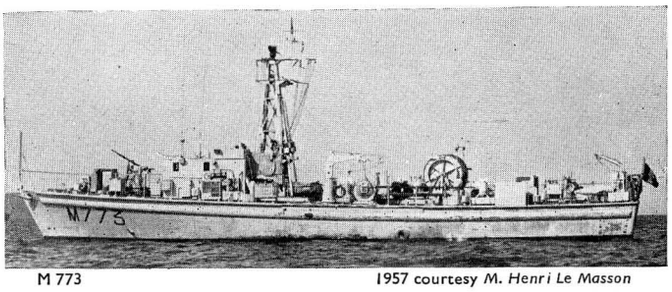
Built by Newport News S.B. & D.D. Co. Launched on 29 Dec. 1943. Transferred by the United States to Great Britain in 1944. Acquired by Greece from whom she was purchased by the U.S. in 1952 and transferred to France under MDAP. Pennant No. A 646.

PORT DEPOT SHIPS

General Notes

Former cruisers, etc., now obsolete, are classed as port depot ships:—
There are the battleship *Richelieu* at Brest, the heavy cruisers *Suffren* at Toulon and *Tourville* at Brest, the light cruiser *Montcalm* at Toulon, and the auxiliary aircraft carrier *Dixmude* (aviation transport), all used as barracks; the former aircraft carrier *Bèarn* hulk at Toulon. Also the destroyers *Le Terrible* and *Le Malin*, and a number of other ships including *Duchesse Anne*, *Telemaque*, *Voltigeur*, *Somme*, *Impassible*, *LCH* 9055, *Volontaire* and *Alphée*.

INSHORE MINESWEEPERS
(Drageurs de Rade et d'Estuaire)



M 773 1957 courtesy *M. Henri Le Masson*

15 British Type. "Ham" Class

M 771 (ex-*Frettenham*)	**M 776** (ex-*Stedham*)	**M 785** (ex-*Sparham*)
M 772 (ex-*Wexham*)	**M 781** (ex-*Rendlesham*)	**M 786** (ex-*Whippingham*)
M 773 (ex-*Mersham*)	**M 782** (ex-*Petersham*)	**M 787** (ex-*Sulham*)
M 744 (ex-*Isham*)	**M 783** (ex-*Mileham*)	**M 788** (ex-*Riplingham*)
M 775 (ex-*Kingham*)	**M 784** (ex-*Tibenham*)	**M 789** (ex-*Pineham*)

Displacement:	120 tons *standard* (140 tons *full load*)
Dimensions:	100 (*pp.*), 106½ (*o.a.*) × 21¼ × 5½ feet
Guns:	1—40 mm. Bofors AA. or 1—20 mm. Oerlikon AA. forward
Machinery:	2 Paxman diesels. B.H.P. : 550=14 kts. (9 kts. when sweeping)
Oil fuel	15 tons
Complement:	12 (2 officers, 10 men)

Notes

Former British inshore minesweepers of the "Ham" class transferred to France under the American "off-shore" procurement programme. First, M 771, was delivered in Dec. 1954. Last, M 789, was handed over at Hythe on 10 Nov. 1955.

Recent Disposals

The eight remaining converted inshore minesweepers of the former patrol (*chasseur*) type, M 690, M 691, M 695, M 696, M 711, M 713, M 714 and M 715, were condemned in 1959. M 697 was condemned in 1958.

ELECTRONICS MAINTENANCE SHIP

1 New Construction
(Bâtiment de soutien logistique version électronique)

Displacement:	2,375 tons (*mean*)
Dimensions:	302 × 42⅔ × 12 feet
Guns:	3—40 mm. AA.
Machinery:	Diesels. 1 shaft. B.H.P.: 3,300=16·5 kts.

Notes

To be built by Lorient Dockyard. Authorised under the 1959 Programme. Scheduled to be completed in 1963, it is officially stated.

SUBMARINE MAINTENANCE SHIP

1 New Construction
(Bâtiment de soutien logistique version soutien de sous-marins)

Displacement:	2,375 tons (*mean*)
Dimensions:	302 × 42⅔ × 12 feet
Guns:	3—40 mm. AA.
Machinery:	Diesels. 1 shaft. B.H.P.: 3,300=16·5 kts.

Notes

Authorised under the 1960 Programme. It is officially stated that this ship will have the same general characteristics as the new electronics maintenance ship.

AUXILIARIES

ENCLUME

Displacement:	350 tons
Dimensions:	163½ × 21½ × 4⅔ feet
Machinery:	3 M W.M motors. B.H.P.: 660=10 kts.

Notes

Repair ship. No armament. (The *Les Vosges* (ex-*Washington*, ex-*Brunehilde*), former German Danube and Black Sea gunboat, afterwards a U.S. patrol vessel on the Danube, dismantled, transferred to the Rhine and rebuilt there as flagship of the French Rhine Flotilla, was transferred to the Bundeswehr in Dec. 1957).

AMIRAL EXELMANS (ex-*Germania*)

Displacement:	220 tons
Dimensions:	130⅔ × 21½ × 4½ feet
Machinery:	1 M.A.N. diesel. 1 shaft. B.H.P.: 230=9·5 kts.

Notes

Ex-river passenger boat purchased in 1952. Used for the training of pilots. Pennant No. A 793.

PATROL LAUNCHES
(Formerly rated as *Chasseurs de Sousmarins*)



P 723 (showing quadruple rocket launchers) 1954, *courtesy M. Henri Le Masson*

4 Ex-U.S. SC Type

P 699 (ex-*CH* 62, ex-*SC* 1337)
P 700 (ex-*CH* 71, ex-*SC* 1344)
P 703 (ex-*CH* 95, ex-*SC* 508)
P 706 (ex-*CH* 135, ex-*SC* 1030)

Displacement:	110 tons *standard* (138 tons *full load*)
Dimensions:	107½ (*w.l.*), 110⅜ (*o.a.*) × 18¾ × 6½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
A/S weapons:	2 D.C.T., 1 D.C. rack (18 D.C.)
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	15 tons
Radius:	2,000 miles at 10 kts.; 1,150 miles at 15 kts.
Complement:	25

Notes
Of wooden construction. All launched in 1941-43. Acquired from the U.S.N. in 1944. Formerly rated as Submarine Chasers, but re-rated as patrol vessels in 1951. *P* 690, 691, 695, 696, 697, 711, 713, 714, 715 were converted into inshore minesweepers in 1954, but were discarded as such in 1958-59, although Nos. 690, 691, 696, 711 and 714 still exist but as auxiliaries and not on the Navy list of fighting vessels.

Recent Disposals
P 731 was scrapped in 1956 and sister ship *P* 736 was given back to United States Navy in 1956. *P* 704 was scrapped in 1957 and *P* 701 was condemned in 1958. *P* 702 was scrapped in 1959. Nos. 693, 694, 709, 718, 722, 723 and 724 are still used as hulks or vedettes without armament for auxiliary purposes.

SEAWARD PATROL CRAFT
(*Vedettes de Port*)



VC II (P 761) 1959, *Marius Bar*

11 VC Type

P 752 VC 2
P 753 VC 3
P 754 VC 4
P 755 VC 5
P 756 VC 6
P 757 VC 7
P 758 VC 8
P 759 VC 9
P 760 VC 10
P 761 VC 11
P 762 VC 12

Displacement:	75 tons *standard* (82 tons *full load*)
Dimensions:	104½ × 15½ × 5½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 2,700=28 kts.
Radius:	1,500 miles at 15 kts.
Complement:	15 (VC 1 to 10), 17 (VC 11 and 12)

Notes
Seaward defence motor launches of a new type. All completed in 1958 and 1959. Built by the Constructions Mécaniques de Normandie, Cherbourg (VC 3-10), Lürssens in Germany (VC 1 and 2), Chantiers Navals d'Esterel (VC 11 and 12). The two latter are slightly different as far as hull forms are concerned. Most of them are employed off the North African coast. *P* 751 (VC 1) was sold to Tunisia, being handed over to the Tunisian Navy on 22 Sep. 1959.

3 British Type

VP 747 (ex-*HDML* 1423)
***VP 768** (ex-*VP* 6, ex-*HDML* 1228)
VP 775 (ex-*VP* 25, ex-*HDML* 1021)

Displacement:	40 tons *standard* (52 tons *full load*)
Dimensions:	72 (*o.a.*) × 15½ × 4½ (*mean*) feet
Guns:	2—20 mm., 4 M.G.
Machinery:	2 Gardner or Thornycroft diesels. 2 shafts. B.H.P.: 300=12 kts.
Oil fuel:	6 tons
Radius:	2,200 miles at 10 kts.
Complement:	8 (1 officer, 7 men)

Notes
* On loan from Great Britain. Most of these boats are in Indo-China. Several were sunk by the enemy in Indo-China. Others were scrapped. *VP* 762 was loaned to the Royal Khmére Navy. *VP* 747 and *VP* 748 were transferred to the Royal Khmére Navy in 1956. *VP* 764 was discarded in 1957. The three remaining boats are to be scrapped in the near future.

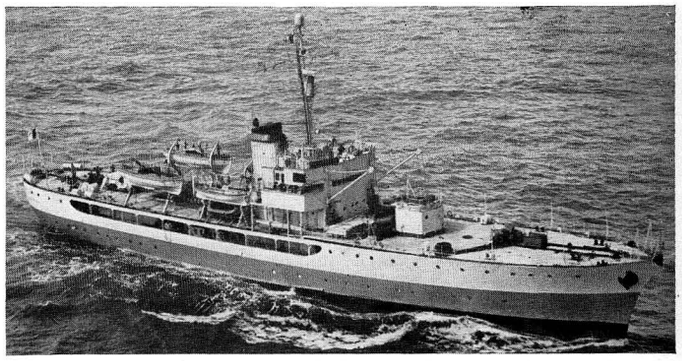
2 Ex-U.S. Type

VP 772 ex-*VP* 51)
VP 773 (ex-*VP* 52)

Displacement:	40 tons *standard*
Dimensions:	52½ × 14¼ × 5¼ feet
Guns:	1 M.G.
Machinery:	2 petrol engines. B.H.P.: 250=12 kts.
Complement:	10 (1 officer, 9 men)

Notes
Former motor launches of the U.S. Navy. Stationed in Tahiti.

SURVEYING VESSELS
(*Annexes Hydrographiques*)



AMIRAL MOUCHEZ *Skyfotos*

1 Aviso Type

AMIRAL MOUCHEZ

Pennant No.:	F 752
Builders:	Cherbourg
Laid down:	Jan. 1935
Launched:	3 Aug. 1936
Completed:	1937

Displacement:	719 tons *standard* (970 tons *full load*)
Dimensions:	203½ × 33¾ × 11 feet
Guns:	4—20 mm. (actual armament mounted, see *Notes*)
A/S weapons:	Removed
Machinery:	Sulzer diesel. 2 shafts. B.H.P.: 800=13 kts.
Oil fuel:	60 tons
Radius:	3,400 miles at 13 kts.; 5,000 miles at 11 kts.
Complement:	91

Notes
Specially constructed as a survey ship. Formerly rated as Avisos Hydrographique. Re-rated Escorteur de Deuxième Classe early in 1953, as Aviso Escorteur 11 Aug. 1953, and Aviso in 1955, but employed as survey ship. Former armament of 2—3·9 inch guns and 2—13 mm. AA. M.G., and anti-submarine weapons removed.

1 Ex-Passenger Type

GUYANE

Measurement:	965 tons *gross*
Machinery:	1 Werkspoor 4 str. 8 cyl. diesel. B.H.P.: 1,600=16 kts.

Notes
Former passenger motor vessel built by Chantiers Ziegler at Dunkirk. Launched on 17 Sep. 1951. Purchased in 1960 and converted by Cherbourg Dockyard into a surveying ship. She will be renamed.



SENTINELLE 1951, *Skyfotos*

1 Ex-German Type

ESTAFETTE (ex-*B* 282, ex-*Treff.* 6)

Displacement:	500 tons *standard* (654 tons *full load*)
Dimensions:	137 × 26 × 15½ feet
Guns:	2—20 mm.
Machinery:	Deutz motor. B.H.P.: 500=12 kts.
Oil fuel:	140 tons

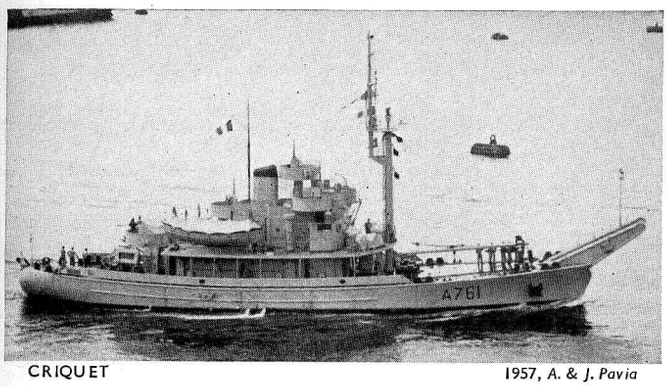
Notes
Ex-whaler. Sister ship *Sentinelle* (ex-*B* 284, ex-*Treff.* 2) was scrapped in 1960. *Alidade* (ex-German M 4621, ex-*Van Rozeland*) was scrapped in 1959.

Recent Disposals
Astrolabe (ex-*B* 281, ex-*V* 201, ex-*Zieten*) and *Boussole* (ex-*UJ* 1405, ex-*B* 285) were scrapped in 1953. The surveying vessel *Ingenieur en Chef Girod* was sold to Viet Nam in Dec. 1955. *Ingénieur-Hydrographe Nicolas* (ex-*Otto Brohan*, ex-*B* 206) and *Octant* (ex-German *M* 4626, ex-*Ostfriesland*) were scrapped in 1960.

Trawlers
The ex-British trawlers *La Sétoise* (ex-*Oriental Star*) and *La Toulonnaise* (ex-*Hampshire*) were scrapped in 1959.

Air-Sea Rescue Launches
The four former British remaining air-sea rescue launches Y 615, Y 616, Y 617 and Y 619, were scrapped in 1959.

BOOM DEFENCE VESSELS (Rated as *Gabares*)
Mouilleur de Filets



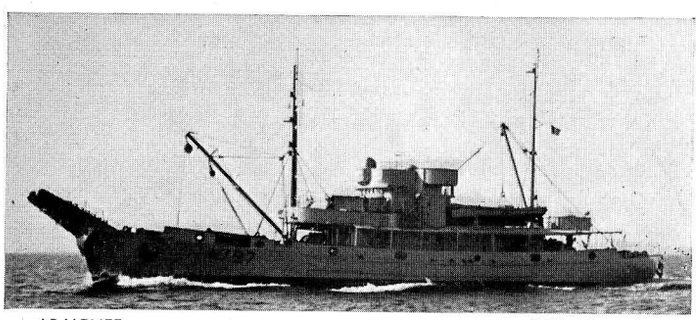
CRIQUET 1957, *A. & J. Pavia*

5 "Off-shore" U.S. AN Type

CIGALE (ex-*AN* 98)
CRIQUET (ex-*AN* 96)
FOURMI (ex-*AN* 97)
GRILLON (ex-*AN* 95)
SCARABÉE (ex-*AN* 94)

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	149½ × 33½ × 10½ feet
Guns:	1—40 mm. Bofors, 4—20 mm. AA.
Machinery:	2, 4-stroke diesels, electric drive. B.H.P.: 1,600 = 12 kts.

Notes
U.S. AN type "Off-shore" orders. Only the five above were finally allocated to the French Navy. *G* 6 was allocated to Spain. *Criquet* was launched on 3 June 1954, *Cigale* on 23 Sep. 1954, *Fourmi* on 6 July 1954, *Grillon* on 18 Feb. 1954, and *Scarabée* on 21 Nov. 1953.



ARAIGNEE 1960, *Giorgio Arra*

3 Ex-U.S. AN Type Netlayers

ARAIGNÉE (ex-*Hackberry*, ex-*Maple*)
SCORPION (ex-*Yew*)
TARENTULE (ex-*Pepperwood*, ex-*Walnut*)

Displacement:	560 tons *standard* (850 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 11⅔ feet
Guns:	1—3 inch AA., some M.G.
Machinery:	Diesel-electric. H.P.: 800 = 12 kts.
Complement:	39

Notes
Launched on 6 Mar. 1941, 25 Sep. 1941, and 25 Aug. 1941, respectively. Former American netlayers.

1 Former Aircraft Tender Type

MARCEL LE BIHAN (ex-German *Greif*)

Pennant No.:	F753
Builders:	Lubecker Fleudewerke
Launched:	1936
Completed:	1937

Displacement:	800 tons *standard* (1,000 tons *full load*)
Dimensions:	236½ × 34⅔ × 9 (light)
Guns:	1—4·1 inch, 2—40 mm. AA., 4—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 4,400 = 18·5 kts. (16 kts. sea speed)
Radius:	2,000 miles at 13 kts.
Complement:	63

Notes
Former German aircraft tender. Transferred by the United States in Feb. 1948. Re-rated as Escorteur de Deuxième Classe early in 1953, as Aviso Escorteur 11 Aug. 1953, and Aviso in 1955. Resembles *Paul Goffeny* in general design. Reclassified as a boom defence vessel on 1 Nov. 1959.

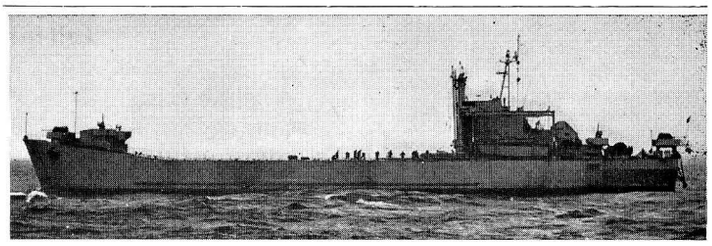
5 Small Type

AGISSANTE **PATIENTE** **PERSISTANTE** **PUISSANTE** **VICTORIEUSE**

Notes
All 350 tons, except *Patiente* 305 tons. *Giraffe* and *Persévérante* were scrapped in 1957, and *Fidèle* was scheduled to be condemned in 1958.

Weather Ship Notes
The ex-U.S. frigates *Mermoz* (ex-U.S.S. *Muskegon*, *PF* 24) and *Le Verrier* (ex-U.S.S. *Emporia*, *PF* 28) were adapted for weather observation in the North Atlantic. Formerly rated as *Frêgates Météorologiques*, but re-rated *Escorteurs de Deuxième Classe* in 1951. They belong to the Ministry of Transport and are no longer manned by the French Navy. They are not on the Navy list, and they would no longer be used as escort vessels in wartime. Sister ship *Le Brix* (ex-U.S.S. *Manitowoc*, *PF* 61) was condemned in 1958.

LANDING SHIPS
(Rated as *Bâtiments de debarquement*)

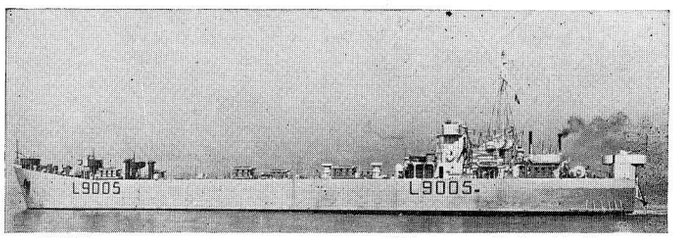


TRIEUX 1960, *French Navy, Official*

ARGENS (BDC 2)
BIDASSOA (BDC 5)
BLAVET (BDC 3)
DIVES (BDC 4)
TRIEUX (BDC 1)

Displacement:	1,400 tons *standard*, 1,765 tons *light* (4,000 tons *full load*)
Dimensions:	328 (*o.a.*) × 50 × 14 feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
Machinery:	Two sets of SEMT-Pielstick diesel engines. B.H.P.:2,000 = 11 kts.
Radius:	18.500 miles
Complement:	85 (6 officers and 79 men). Can carry 170 troops (normal) and 335 (even up to 870) if required. 329 passengers in bunks, 552 in hammocks

Notes
Trieux was built under the 1956 programme by Chantiers de Bretagne, Nantes, and launched on 6 Dec. 1958. Two more provided under the 1957 naval estimates were allocated to the same builder, *Argens* having been launched on 7 Apr. 1959 and *Blavet* on 16 Jan. 1960. Two more were allocated in 1958 to Chantiers Seine Maritime, *Dives* was launched on 28 June 1960 and *Bidassoa* is scheduled to be launched in Dec. 1960. Can carry four LCVPs and 1,800 tons deadweight of freight.



ODET 1954, *courtesy M. Henri Le Masson*

CHELIFF (ex-*LST* 874)
LAITA (ex-*LST* 177, 10 May 1943)
ODET (ex-*LST* 815)
ORNE (ex-*LST* 508, 10 Nov. 1943)
RANCE (ex-*LST* 223, 24 Aug. 1943)

Displacement:	1,625 tons *standard* (4,030 tons *full load*)
Dimensions:	316 (*w.l.*), 328 × 50 × 14 (*max.*) feet
Guns:	8—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.

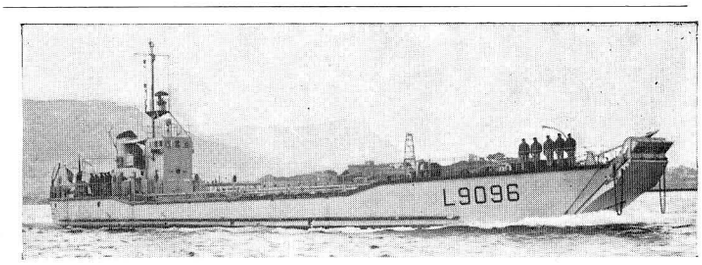
Notes
Used as naval transports. *Adour* (ex-*LST* 860), seriously damaged, was raised to become an accommodation ship (removed to France), but was scheduled to be scrapped in 1958. *Vire* was scrapped in 1957. *Golo* (ex-*LST* 973) was discarded in 1960.

Recent Disposals
LSSL *Arbalete* was sold to Viet Nam in 1954 and *Arquebuse* in 1955. *Hallebarde*, *Javeline* and *Rapiere* were given back to the United States in Oct. 1955. *Etendard*, *Oriflamme* and *Pertuirane* were given back to U.S.A. in 1957. *Framée* was transferred to Viet Nam Navy in 1957.

LSIL 9030 (ex-715) scrapped 1955. *LSIL* 9029, 9035, 9038 transferred to Viet Nam in 1956, 9039 to Royal Khmére Navy. Others scrapped or given back to U.S.A. (9031, 9032, 9036, 9037)

LSM 9011, 9012 transferred to Viet Nam Navy, Dec. 1955. *LSM* 9014, 9017, 9018, returned to U.S.A. in 1955. *LSM* 9019, 9021 transferred to Viet Nam Navy in 1956. Others returned to U.S.A.

LANDING CRAFT
EDIC (*Engins de Debarquement Infanterie Chars*)



EDIC 6 1959, *Marius Bar*

6 EDIC Type

EDIC 1 (7 Jan. 1958)
EDIC 2 (21 Feb. 1958)
EDIC 3 (17 Apr. 1958)
EDIC 4 (24 July 1958)
EDIC 5 (11 Apr. 1958)
EDIC 6 (11 Oct. 1958)

Dimensions:	187 × 38⅔ × 4⅓ feet
Machinery:	MGO diesels. 2 shafts. B.H.P.: 1,000 = 8 kts.

Notes
EDIC 1 to 4 were built by C. N. Franco Belge, EDIC 5 and 6 by Toulon Dockyard. Launch dates above. All completed in 1958 and 1959.

Recent Disposals
LCI 9041 (ex-102) and *LCI* 9044 (ex-109) were discarded in 1953, and *LCI* 9050 (ex-508) in 1954. *LCI* 9047 and *LCI* 9048 were discarded in 1956. *LCI* 9046 was scrapped in 1956. *LCI* 9049 was sunk off Indo-China on 27 Sep. 1953. *LCH* 9055 (ex-*LCH* 377, ex-*LCI* 377) was relegated to a port depot ship in 1960.

LCT 9062 **LCT 9065** **LCT 9069** **LCT 9070** **LCT 9071**

Recent Disposals
LCT 9060, 9061, 9063, 9064, 9066, 9067 were discarded in 1956. *LCT* 9085 and *LCT* 9091 were transferred to the Royal Khémre Navy. *LCG* 9059 and *LCT* 9083 were scrapped. *LCT* 9068 was condemned in 1957. *LCT* 9072 was condemend in 1960. Photograph of *LCT* 9071 in the 1957-58 and 1958-59 editions.

LCT 9083 (ex-*LCT* (*R*) 4)

Notes
Ex-U.S. *LCU* 1694, ex-U.S. *LCU* 1695 and all other *LCU* were transferred to the Viet Nam Navy. *LCT* 9084 (ex-*LCT* (*R*) 27) was scrapped in 1959.

PATROL BOATS (Ex-*Flotilla du Rhin*)



P 9785 1956, *courtesy M. Henri Le Masson*

P 9783 **P 9784** **P 9785** **P 9786** **P 9787** **P 9788**

Displacement:	45 tons
Dimensions:	79½×16×4 eet
Guns:	8 M.G.
Machinery:	2 Daimler-Benz diesels. 2 shafts. B.H.P.: 1,000=18 kts.



P 9781 1956, *courtesy M. Henri Le Masson*

P 9781 **P 9782**

Displacement:	34·5 tons
Dimensions:	80½×12⅝×4½ feet
Guns:	5 M.G.
Machinery:	2 Mayback diesels. 2 shafts. B.H.P.: 900=21 kts.

P 9796 (ex-41) **P 9797** (ex-42) **P 9798** (ex-43) **P 9799** (ex-44)

Displacement:	23 tons
Dimensions:	65½×11×3½ feet
Guns:	5—13·2 mm. Hotchkiss M.G.
Machinery:	2 M.A.N. diesels. 2 shafts. B.H.P.: 400=19 kts.
Complement:	8

Notes
Built 1950-51, two by Rasmussen, Bremse Vegesack, two by Bodenwerft.

P 9740 **P 9741** **P 9742** **P 9743**

Displacement:	12 tons
Dimensions:	49×9⅔×3 feet
Guns:	1 M.G.
Machinery:	1 M.W.M. diesel. 1 shaft. B.H.P.: 220=13 kts



P 9794 1956, *courtesy M. Henri Le Masson*

P 9794

Displacement:	10 tons
Dimensions:	47×10½ (hull), 14¾ (*o.a.*)×2½ (hull), 5½ (wings) feet
Guns:	2—½ inch M.G.
Machinery:	2 Scripps motors. B.H.P.: 300=45 kts.

Notes
Equipped with hydroplane wings. *P* 9790, 9791, 9792 and 9793 also carry wings: speeds 32 and 37 kts.

RAMBERVILLERS Y 6659

Displacement:	24 tons
Dimensions:	67⅔×11½×5½ feet
Machinery:	2 Deutz diesels. 2 shafts. B.H.P.: 300=12 kts.

Notes
This auxiliary patrol launch was a war prize with the *Ormont* which was retired from service in Feb. 1958.
There are also 11 police vedettes of 6·3 tons (*Y* 6670-*Y* 6683); 2 control patrol launches of 10·2 tons (*Y* 6640, *Y* 6641); two vedettes of 2 tons (*P* 9790, *P* 9791); two vedettes of 6 tons (*P* 9792, *P* 9793); eight river tugs; and 31 landing craft (*LCM*).
Nine control patrol launches of 10·2 tons, *Y* 6642-*Y* 6650, one river tug, and 9 landing craft (LCM) were transferred to the Bundeswehr in 1957-58.

Ex-*Flotilla du Rhin* (*continued*)

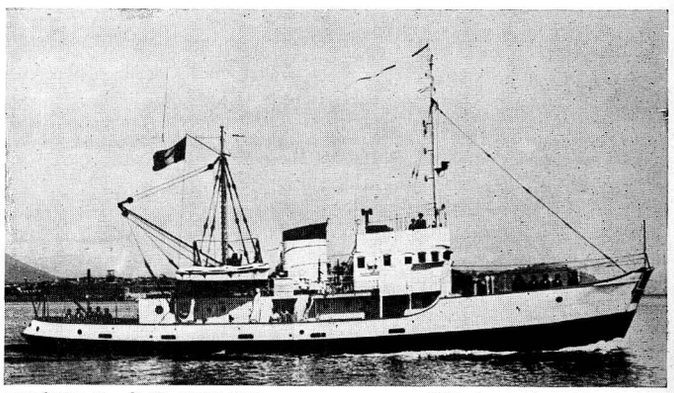
HOCHE L 981 **KLEBER** L 982 **MARCEAU** L 980

Displacement:	175 tons
Dimensions:	131½×26½×4 feet
Guns:	1—3 inch, 12 M.G., 1—3·1 inch mortar
Machinery:	2 Mercedes-Benz diesel motors. B.H.P.: 1,720=13 kts.
Complement:	14

Notes
Former Rhine Flotilla support ships, brought back to France and laid up in 1958. Named in 1960.

Monitor, 990, actually a self-propelled pontoon with a Sherman tank turret mounted amidships, for service in the Rhine Flotilla, was discarded in 1959.

DIVING TENDER (*Batiment de Récherches Sous Marines*)



INGÉNIEUR ÉLIÈ MONNIER 1957, *French Navy, Official*

1 Ex-German Type

INGÉNIEUR ÉLIÈ MONNIER (ex-German trawler *Albatros*)

Displacement:	280 tons *standard* (350 tons *full load*)
Dimensions:	111½×24×10 feet
Machinery:	Diesel. 1 shaft. Speed: 12 kts.
Range:	1,500 miles
Complement:	19

Notes
Fitted for ocean research. Built by D. W. Kremer Schiffwert Elmshom in 1944.

TRAINING SHIPS (*Voiliers-École*)

2 Auxiliary Sailing Vessels

LA BELLE-POULE **L'ÉTOILE**

Displacement:	227 tons
Dimensions:	128 (*o.a.*)×23⅜×11⅜ feet
Machinery:	Sulzer diesel. B.H.P.: 120=6 kts.

Notes
Built by Chantiers de Normandie (Fécamp), 1932. Accommodation for 3 officers, 30 cadets, 5 petty officers, 12 seamen. Attached to the Navy School.

DOLPHIN (ex-*Simone Marcelle*)

Notes
Ex-tunny fishing vessel purchased Oct. 1954 and altered. *Notre Dame d'Etel* scrapped. Attached to the School of Manoeuvre.

MUTIN

Notes
Attached to the School of Pilotage.

TRANSPORTS

Conversion Notes
The transport *Ile d'Oleron* has been converted into an experimental guided missile ship. see earlier page.

FALLERON (ex-German *Welle*) **TER** (ex-German *Heinrich*)

Displacement:	150 tons (247 tons *full load*)
Machinery:	Diesels. Speed: 7 kts.

Notes
Herault was removed from the effective list in 1955. *Alphée* became a station ship in 1958.

GAPEAU (ex-German *B* 284, ex-*V* 625, ex-*Johan Schultz*)
MOLÈNE (ex-German B. 262, ex-*V* 620, ex-*Köln*)

Displacement:	300 tons
Machinery:	Deutz diesels. B.H.P.: 500=9 kts.

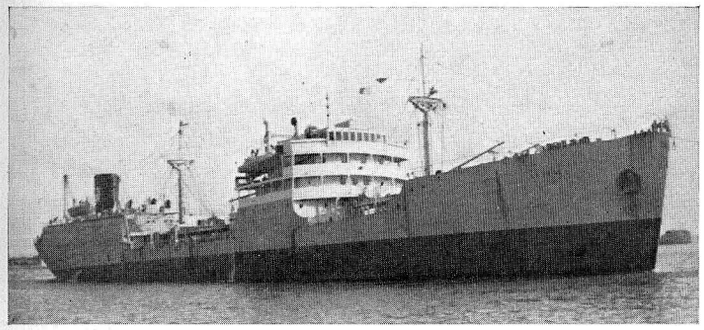
Notes
Photograph of *Gapeau* in 1957-58 and earlier editions. *Cap Ferrat* was officially deleted from the list in 1960.

TRÉBÉRON (ex-*B* 254)

Displacement:	120 tons
Dimensions:	82×20×9 feet
Machinery:	Diesel. B.H.P.: 120=8·5 kts.

Notes
Former German danlayer used as small personnel transport for local service. Rated as Patrol Craft. Sister ship *Rachgoun* was scrapped in 1957.

OILERS (*Transports Petroliers*)



LA BAISE

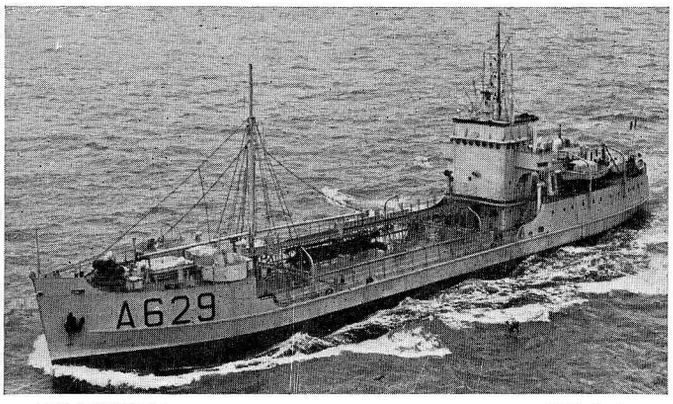
1 Fleet Replenishment Type

LA BAISE

Displacement:	4,220 tons *light* (12,100 tons *full load*)
Dimensions:	433 × 52½ × 20⅔ feet
Guns:	1—3·9 inch, 14—20 mm. AA.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 5,200=15 kts.
Boilers:	2 Penhoët
Oil fuel:	1,100 tons
Radius:	10,000 miles at 13 kts.

Notes

Built by Ch. Worms, Le Trait, under the 1938 Programme. Rated as *Ravitailleur d'Escadre*. *La Baise* was launched in 1945. Pennant number A 625. Of two sister ships *La Charente* was scrapped in 1960 and *La Mayenne* is also being scrapped.



LAC CHAMBON 1956, *Skyfotos*

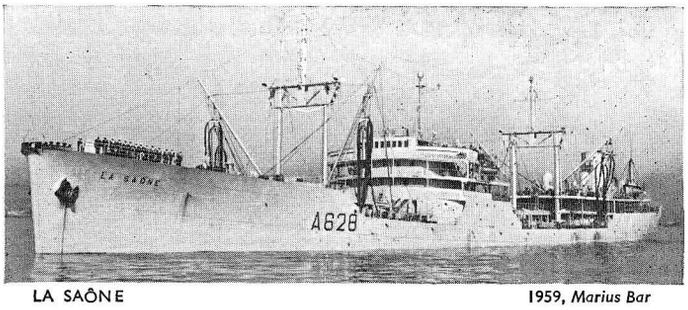
3 Ex-U.S. Type

LAC CHAMBON (ex-*Anticline*) **LAC TONLÉ-SAP** (ex-*Pumper*)
LAC TCHAD (ex-*Syncline*)

Displacement:	800 tons *light* (2,670 tons *full load*)
Dimensions:	235 × 37 × 15¾ feet
Guns:	3—20 mm. AA.
Machinery:	2 Fairbanks-Morse diesels. B.H.P.: 1,150=11 kts.
Radius:	6,300 miles at 11 kts.
Complement:	37

Notes

Ex-American fuel oil barges. Acquired in Dec. 1944 and Mar. 1945. *Lac Noir* was scrapped in 1951. *Lac Pavin* was scrapped in 1953.



LA SAÔNE 1959, *Marius Bar*

2 Naval Supply Type

LA SAÔNE **LA SEINE**

Displacement:	5,147 tons *light* (22,300 tons *full load*)
Measurement:	16,870 tons *deadweight*
Dimensions:	525 × 72½ × 33 feet
Machinery:	2 Parsons geared turbines. 2 shafts. S.H.P.: 7,200 = 16 kts.
Boilers:	3 Penhoët

Notes

Fleet tankers returned to French Navy from charter company Sep. 1953. Now painted Navy grey all over. *La Saône* was converted into a fleet supply ship and commissioned as such in Apr. 1958. She is now rated as *Ravitailleur d'Escadre*. Photograph of *La Seine* in the 1954-55 to 1958-59 editions.

Recent Disposals

L'Aulne (ex-U.S. *YOG* 680) was transferred to the Vietnamese Navy in 1956. *Garonne* (ex-Italian *Tarvisio*) was discarded in 1957.

Of the German type, *Elorn* was condemned in 1958, and her sister ship *Var* was scrapped in 1960. Of the Penhoet type, *Le Mékong* was scrapped in 1960.

WATER CARRIERS

3 New Construction

ABERWRACH (ex-*CA 1*)

Displacement:	2,000 tons
Machinery:	Diesel. Speed=15 kts.

Notes

Authorised under the 1956 programme. It is officially stated that *Aberwrach* was ordered in 1959.

GIBOULÉE **HANAP** (ex-*Stjordels Fjord*) **LIAMONE** (ex-*Arrosoir*)

Displacement:	450 tons (1,369 tons *full load*)
Dimensions:	184 × 28⅞ × 13¾ feet
Machinery:	Sulzer diesels. B.H.P.: 1,000=11·5 kts.
Complement:	27

Notes

Rated as regional supply ships. *Arrosoir* was renamed *Liamone* in March, 1954. Photograph of *Liamone* in 1957-58 and earlier editions.

AIGUADE **CASAMANCE** **FONTAINE** **ONDEE**
AVERSE **CATARACTE** **FORMENE** **TORRENT**
BENZENE **DELUGE** **MIRAGE** **ZAGHOUAN**
BRUINE

Notes

Cascade, *Durance* and *Fraiche* were scrapped in 1957. *Aube* was scrapped in 1958. *Ardèche* was scrapped in 1960.

OASIS **RUMMEL** **SAHEL**

Displacement:	630 tons *light* (1,430 tons *full load*)
Machinery:	2 Diesels. B.H.P.: 700=12 kts.

Notes

Sahel was completed in Aug. 1951, *Rummel* and *Oasis* in 1952 and 1953, respectively, by Chantiers Naval de Caen. Deadweight 600 tons. Photograph of *Sahel* in 1957-58 and earlier editions.

FLEET TUGS

HERCULE **ROBUSTE**

Displacement:	230 tons
Machinery:	H.P.: 1,000=11 kts.
Radius:	2,400 nautical miles
Complement:	15

BÉLIER **PACHYDERME**

Displacement:	900 tons *standard* (1,185 and 1,115 tons *full load*, respectively
Machinery:	I.H.P.: 2,000=12 kts.
Oil fuel:	180 tons
Radius:	3,000 miles

Notes

Photograph of *Pachyderme* in the 1957-58 edition.

BUFFLE

Displacement:	900 tons *standard* (1,180 tons *full load*)
Dimensions:	167½ × 33 × 10 feet
Machinery:	2 sets triple expansion. I.H.P.: 2,000=12 kts.
Complement:	32

Notes

Launched on 4 May 1939.

ACHARNÉ **COTENTIN** **OBSTINÉ** **UTILE**
CHAMPION **ENTÊTE** **TÊTU**

Displacement:	500 to 682 tons *full load*
Dimensions:	114¾ × 27¾ × 10 feet
Machinery:	Triple expansion. I.H.P.: 1,000=10 to 11 kts.

Notes

All laid down 1937-38, *Actif* by Ch. de la Loire, Nantes, *Cépét* and *Cotentin* by Ch. Dubigeon, Nantes, *Acharné* by Brest, others by F. & C de la Gironde, Bordeaux.
Actif, *Applique* and *Cépét* were scrapped in 1957-58.

INFATIGABLE (ex-*Polangen*)

Displacement:	540 tons
Machinery:	I.H.P.: 1,200=11 kts.

IMPLACABLE (ex-*Fohn II*)

Displacement:	620 tons
Machinery:	I.H.P.: 1,600=11 kts.

Notes

Valeureux (ex-*ATA*) was condemned at the end of 1957. *Fort* was condemned on 2 Jan. 1958.

INTRAITABLE (ex-*Nordergrunde*)

Displacement:	540 tons
Machinery:	I.H.P.: 1,000=10 kts.

IMBATTABLE (ex-*Nesserland*)

Displacement:	690 tons
Machinery:	I.H.P.: 1,000=10 kts.

MAMMOUTH (1918)

Displacement:	620 tons *standard* (740 tons *full load*)
Machinery:	I.H.P: 1,800=10 kts.

ÉLÉPHANT (ex-*Bär*)

Displacement:	850 tons (1,180 tons *full load*)
Machinery:	I.H.P.: 1,800=12 kts.

Notes

The tug *Samson* (ex-German *Suder Hever*) was officially deleted from the list in 1960.

SÉRIEUX (ex-Italian *Nereo*)

Displacement:	340 tons
Machinery:	I.H.P.: 900=11 kts.

EFFICACE

Displacement:	500 tons
Machinery:	I.H.P.: 1,000=9 kts.

RHINOCÉROS

Displacement:	700 tons
Machinery:	Diesels. B.H.P.: 1,800=12 kts.

Notes

Photograph of *Rhinocéros* in the 1953-54 to 1957-58 editions.

COOLIE (ex-*YTB* 459, ex-*Edenshaw*, 1943) **MALABAR** (ex-*YTB* 458, ex-*Evea*)

Displacement:	300 tons
Machinery:	Diesel. B.H.P.: 1,020=14 kts.

Notes

Transferred from the United States Navy in 1944.

TENACE (ex-*ATA* 226)

Displacement:	400 tons
Machinery:	Diesels. B.H.P.: 1,200=10 kts.

LOCMINÉ

Displacement:	620 tons
Machinery:	Reciprocating I.H.P.: 1,000=10 kts.

GERMANY (EAST)

Nationale Volksarmee, Seestreitkrafte

FRIGATES

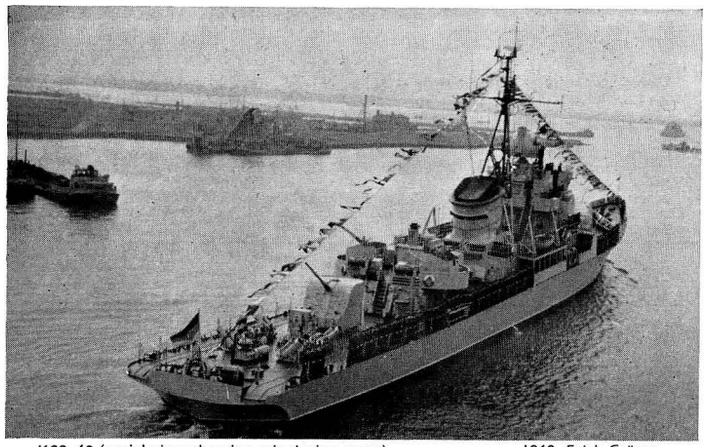
4 New Construction

D I **D II** **D III** **D IV**

Displacement:	1,400 tons *standard*
Dimensions:	348 (*o.a.*) × 36 × 8½ feet
Guns:	4—4 inch AA., 8—37 mm. AA.
Tubes:	2—21 inch
Mines:	50 (capacity)
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 36,000=32 kts.
Boilers:	2 water tube

Notes

Code name: Falke (Falcon). General design is similar to that of the Russian "Kola" class frigates. Under construction at Neptun, Rostock and Peenewerft, Wolgast, with engines of Masch. Fabr. Erfurt. Provision made for carrying mines. No effective construction was observed in 1960, and it is reported that it is extremely doubtful if the vessels will in fact materialise.



KSS 40 (aerial view showing minelaying stern) 1960, *Erich Gröner*

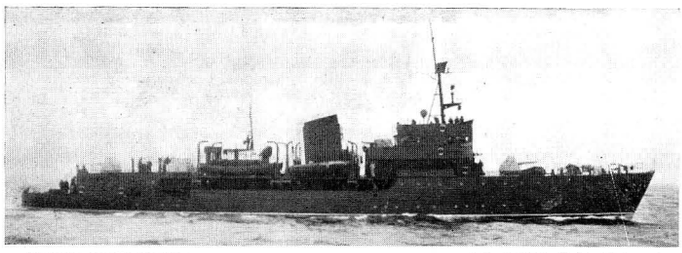
3 Ex-U.S.S.R. "Riga" Type

KSS 40 **KSS 41** **KSS 42**

Displacement:	950 tons *standard*
Dimensions:	278⅞ (*o.a.*) × 31½ × 9 feet
Guns:	3—3·9 d.p. (single mounts); 4—37 mm. AA. (paired vertically)
Tubes:	3—21 inch
A/S weapons:	4 depth charge projectors
Mines:	50 (capacity)
Machinery:	Geared turbines. 2 shafts. S.H P.: 24,000=28 kts.
Complement:	190

Notes

Frigates or light destroyer escorts of the Russian so called "Riga" type, known officially as the "SKR" type. Designed to carry 50 mines. It was reported in 1960 that the 1-61,62,63 numbers are no longer to be seen.



ERNST THÄLMANN *Added* 1959, *Erich Gröner*

1 Ex-Danish Type

ERNST THÄLMANN (ex-*Dorsch*, ex-*Hvidbjörnen*)

Displacement:	1,100 tons
Dimensions:	220 × 34½ × 16¾ feet
Guns:	1—3·3 inch (85 mm.), 2—37 mm. AA., 4—25 mm. AA.
Machinery:	Triple expansion. 1 shaft. 1,800=14·5 kts.
Boilers:	2 water tube
Oil fuel:	140 tons
Radius:	3,300 miles at 12 kts.

Notes

Ex-Danish *Hvidbjornen*. Launched in 1928. Modernised in 1953-54 at Matthias Thesen Yard, Wismar. Ex-name *Dorsch* was borne only during this period for disguise. Fitted with new boilers at Rostock in the spring of 1957. Employed as a training ship for officer candidates.

Submarine Notes

It was reported in June 1960 that there are no submarines building, projected or planned and none on loan. Not one of the Russian "MV" type has joined the *Seestreitkrafte*. They have only some complete complements trained in Polish or Russian "M" type boats The salvaged German VIIc type submarine was broken up in 1954-55, and the salvaged German XXIII type (ex-U 2344) was completely demolished.

PATROL VESSELS (Submarine Chasers)

4 "Hai" Class

PC 1 **PC 2** **PC 3** **PC 4**

Displacement:	370 tons
Dimensions:	187 × 27⅞ × 9 feet
Machinery:	Diesels. Speed 28 kts.

Notes

Submarine chasers under construction at Peenewerft, Wolgast. Code name: "Hai."

FISHERY PROTECTION VESSELS

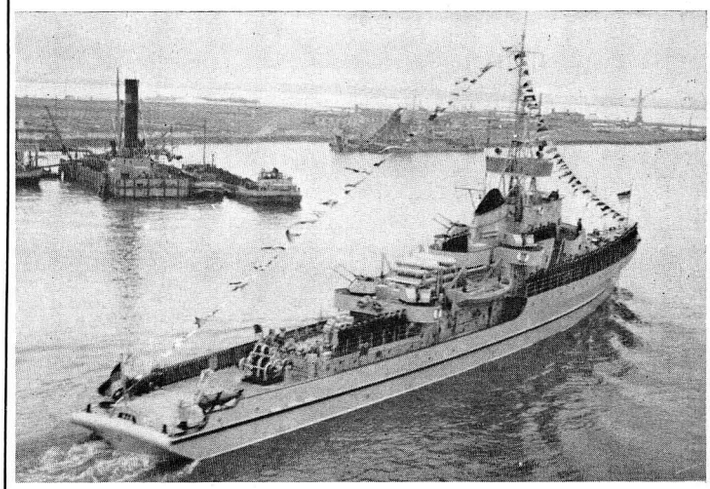
ROBERT KOCH

Displacement:	1,520 tons
Dimensions:	217 (*o.a.*) × 32 × 14¾ feet
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,800=14·5 kts.
Complement:	44

Notes

Of the trawler type. Launched in 1955 at the Neptun Yard, Rostock, and completed at the Matthias-Thesen Yard, Wismar (A new fishery protection vessel is planned at Peenewerft, Wolgast. Two small vessels are *Professor Henking* (ex-*Neues Deutschland*), and *Dr. Friedrich Wolf* (1957), both 100 tons, 14 kts.).

MINESWEEPERS



MLR 6-42 (aerial view showing minesweeping stern) 1960, *Erich Gröner*

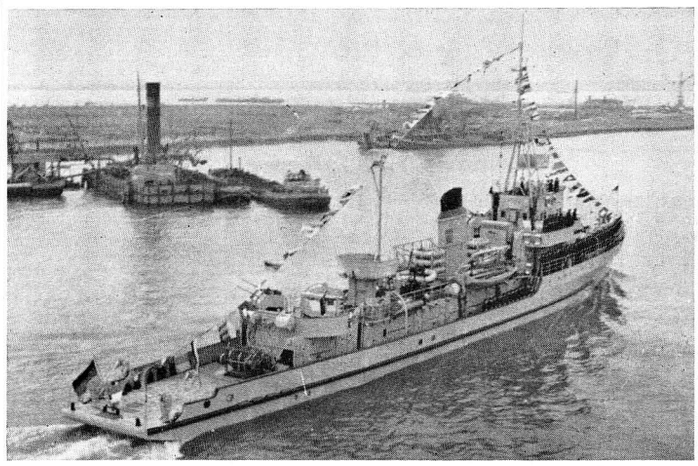
10 "Krake" Class

MLR 6-21 **MLR 6-22** **MLR 6-23** **MLR 6-24** **MLR 6-41** **MLR 6-42** **MLR 6-43** **MLR 6-47** **MLR 6-91** **MLR 6-92**

Displacement:	650 tons
Dimensions:	229⅜ × 26½ × 12½ feet
Guns:	1—85 mm. AA.; 10—25 mm. AA. (paired vertically)
A/S weapons:	4 D.C.T.
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts. B.H.P.: 34,000=18 kts.
Complement:	80 (peace), 96 (war)

Notes

Buit in 1956-58 at Peenewerft, Wolgast. The hull form is similar to that of 6-11. Code name: Krake. The first four were completed in 1958, originally for Poland, but not delivered. Appearance is different compared with the first type, the squat wide funnel being close to the bridge work with a lattice mast and radar. Minelayers and minesweepers. A port broadside photograph of MLR 6-47 appears in the 1958-59 and 1959-60 editions.



MLR 6-11 (aerial view showing minesweeping stern) 1960, *Erich Gröner*

6 "Habicht II" Class

MLR 6-11 **MLR 6-12** **MLR 6-13** **MLR 6-14** **MLR 6-15** **MLR 6-16**

Displacement:	550 tons
Dimensions:	213 (*o.a.*) × 26½ × 11¾ feet
Guns:	1—3·4 inch, 2—20 mm. AA., 8—25 mm. AA. (paired vertically)
A/S weapons:	4 D.C.T.
Mines:	Fitted for laying
Machinery:	2 diesels. 2 shafts. B.H.P.: 2,800=18 kts.

Notes

Ex-6-91, 6-92, 6-71-74, ex-6-111-116, ex-621 to 626. These vessels are a modification of MLR 6-31 type but lengthened by 20 feet amidships. Built at Wolgast Peene Yard. All welded. All completed 1955-56. Habicht II type. A starboard broadside photograph of MLR 6-16 (ex-6-71, ex-6-116, ex-626) appears in the 1956-57 to 1959-60 editions.

6 "Habicht I" Class

MLR 6-31 **MLR 6-32** **MLR 6-33** **MLR 6-34** **MLR 6-35** **MLR 6-36**

Displacement:	500 tons (6-31,6-32), 600 tons (6-34,6-35,6-36)
Dimensions:	193½ (*o.a.*) × 26½ × 11¾ feet
Guns:	1—3·4 inch, 4—20 mm. AA. (except 6-31, 6-32, 1—37 mm. AA., 2—20 mm. AA., 8—15 mm. AA.)
A/S weapons:	4 D.C.T.
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts. B.H.P.: 2,800=18 kts. (6-31-6-34: B.H.P.: 2,400=17kts.)

Notes

Ex-331-336, ex-031-036, formerly 611 to 616. Code name: Habicht I (Hawk). Modified German M 40 war type minesweepers but with diesel propulsion. Prefabricated in five sections and assembled at Volkswerft, Stralsund. Laid down in 1952-53, launched in 1952-54 and completed in 1952-54. All welded. MLR 6-33 sank early in 1958 but was salvaged and repaired in 1959. A starboard bow photograph of MLR 6-31 (ex-331, ex-031, ex-611) appears in the 1956-57 to 1959-60 editions.

COASTAL MINESWEEPERS

50 R-boat Type

7-11	7-21	7-31	7-41	7-51	D 01	D 08
7-12	7-22	7-32	7-42	7-52	D 02	D 09
7-13	7-23	7-33	7-43	7-53	D 03	D 10
7-14	7-24	7-34	7-44	7-54	D 04	D 11
7-15	7-25	7-35	7-45	7-55	D 05	D 12
7-16	7-26	7-36	7-46	7-56	D 06	D 13
7-17	7-27	7-37	7-47	7-57	D 07	D 14
				7-91		

Displacement: 50 tons
Dimensions: 85½ × 14¾ × 4¾ feet
Guns: 2—25 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 300=17 kts.
Oil fuel: 1·5 tons

Notes
Launched in 1954-56. D 01 to D 14 boats belonging to S.H.D. are of the same type but without armament.

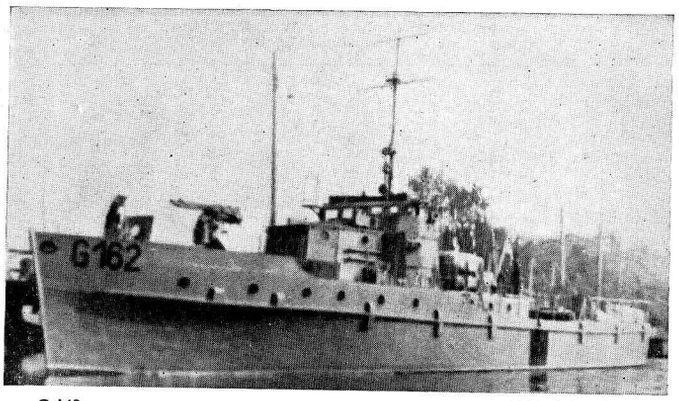
8 Ex-German R-boat Type

811	812	813	814	815	816	817	818

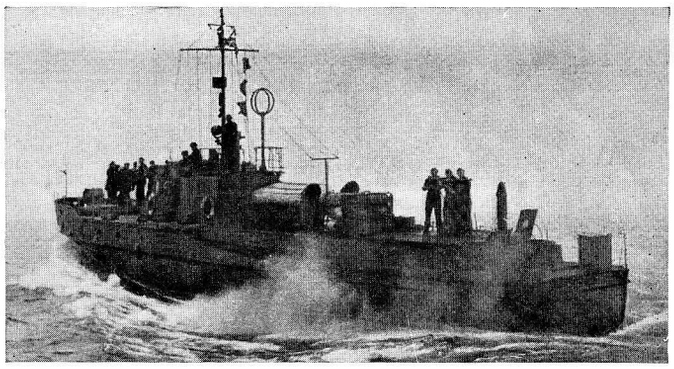
Displacement: 140 tons
Dimensions: 128¾ × 18¾ × 5¼ feet
Guns: 1—37 mm. or 2—20 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,550=21 kts.
Oil fuel: 15 tons
Radius: 1,000 miles at 15 kts.
Complement: 38

Notes
R-boats of the R 401-424 or R 218-290 series of the former German Navy ceded by the Soviet Navy. Built in 1943. There are also some boats of the FLB 5001 type.

PATROL BOATS



G 152 1956, *Erich Gröner*



G 171 1956, *Erich Gröner*

G 111	G 121	G 131	G 141	G 151	G 161	G 171	G 181
G 112	G 122	G 132	G 142	G 152	G 162	G 172	G 182
G 113	G 123	G 133	G 143	G 153	G 163	G 173	G 183
G 114	G 124	G 134	G 144	G 154	G 164	G 174	G 184
G 115	G 125	G 135	G 145	G 155	G 165	G 175	G 185
G 116	G 126	G 136	G 146	G 156	G 166	G 176	G 186

Displacement: 53 tons (72 tons *full load*), G 121-156, 56 tons (75 tons *full load*)
Dimensions: 85¼ (*o.a.*) G 121-156, 96 × 16 × 5 feet
Guns: 2—20 mm. AA., 2 M.G. (first type); 5—20 mm. AA. (2 twin, 1 single), 10 D.C. (G 121-156)
Machinery: 2 diesels. B.H.P.: 1,800=26 kts. (G 121-156, 27 kts.)

Notes
Code name: Delphin. All built 1951-54. P 201-206, P 441, 442, 461-464, 821-829, 3-31 to 3-38 and 3-41 to 3-48 also reported. Of the patrol boats 20 are of the KS (Coastal Security) class.

P 201	P 202	P 203	P 204	P 205	P 206

Displacement: 30 tons
Dimensions: 78¾ × 16 × 5 feet
Guns: 1—20 mm.
Machinery: Diesels: Speed=13 kts.

Notes
Built at Kopenick in 1950-56.

MOTOR LAUNCHES

821	823	825	827	829
822	824	826	828	

Displacement: 12 tons
Guns: 1—15 mm. AA.
Machinery: Diesels. Speed 10 kts.

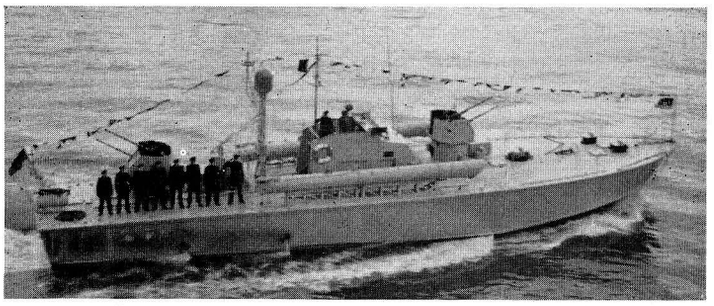
Notes
Built in 1954-55 by Engelbrecht V.E.B., Berlin-Kopenik. Numbers also reported as 7—21 to 7—29.

MOTOR TORPEDO BOATS

6 New Construction

Displacement: 55 tons
Guns: 2—25 mm. AA., 2—15 mm. AA.
Tubes: 2—21 inch
Machinery: Speed=40 kts.

Notes
First launched in 1956 at Schiffswerft, Rosslau. Five more were built at Peenewerft, Wolgast. Code name: "Delphin."



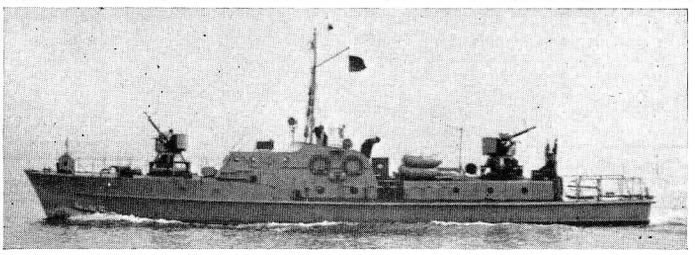
MTB RUSSIAN TYPE 1960, *Erich Gröner*

9 Ex-U.S.S.R. "PA 3" Type

Displacement: 50 tons
Dimensions: 85½ × 20 × 6 feet
Guns: 4—25 mm. AA.
Tubes: 2—21 inch
Machinery: Speed=42 kts.

Notes
Built in 1952-55. Purchased from U.S.S.R. in 1957. Fitted out by Peenewerft, Wolgast.

COASTAL DEFENCE BOATS



KRS 4-45 1959, *Erich Gröner*

4-41	4-42	4-43	4-44	4-45	4-46

Displacement: 50 tons
Guns: 2 to 8—15 mm. AA. (twin)
A/S weapons: 4 D.C.
Machinery: 2 shafts. B.H.P.: 1,000=29 kts.

Notes
Motor boats of all metal construction.

4-911	4-913	4-915	4-917	4-919
4-912	4-914	4-916	4-918	

Machinery: 2 Jumo diesels. 2 shafts. B.H.P.: 1,000=29 kts.

G 311	G 313	G 321	G 323	G 331	G 333
G 312	G 314	G 322	G 324	G 332	G 334

Notes
Of similar construction. Coastal and harbour defence boats. Code name: "Tümmler."

TRAINING SHIPS

WILHELM PIECK

Displacement: 200 tons
Machinery: Diesel. 1 shaft. B.H.P.: 106=8 kts.

Notes
Brigantine employed as a school ship. Built in 1951. Photo in 1955-56 edition.
Also two yachts, *Ernst Thälmann*, 150 tons, and *Jonny Scheer*, 120 tons, and six more including *Max Reichpietsch*, *Alvin Köbis*, *Helgoland* and *Knechtsand*.

SURVEYING VESSELS

JOHANN L. KRÜGER (1951) **HELMUT JUST** (1952)

Displacement: 475 tons
Measurement: 260 tons *gross*
Machinery: Diesel. B.H.P.: 400=10·5 kts.
Dimensions: 128 × 24 × 11 feet

Notes
Built at VEB Rosslauer Shipyard, Rosslau, River Elbe. Launch dates above. There are also *Jordan* and *Magnetologe* (1954), 135 tons, 10 kts. (seiner type); *Arkona*, *Darsser Ort* and *Stubbenkammer* (1956), 55 tons, 10 kts. (cutter type); and *Flaggtief* and *Hydrograph* (1953) 30 tons, 8 kts.

AUXILIARY VESSELS

H 42 (*ex*-931), Netlayer
H 44 (*ex*-941), Oiler
H 41 (ex-932)
H 43 (ex-933), Tender

Notes
Sixteen auxiliary vessels service the East German Navy, including the above. For experimental purposes there are also *Rosa Luxemburg* (1950) and *Wilhelm.Liebknecht* (1951), 475 tons, 10 kts.; *Meteor* (1956), 435 tons, 10·5 kts.; and *Saturn* (1956), 110 tons, 9 kts

TUGS

H 31	H 32	H 33	H 34	H 35	H 36	H 37

Displacement: 700 tons
Machinery: H.P.: 1,200=14 kts.

Notes
Ex-921 to 927. Particulars vary. Number doubtful. First five somewhat smaller. Also *Wismar*, small salvage tug. A photograph o H 36 (ex-926) appears in the 1956-57 to 1959-60 editions.
Also *Alfred Merz*, buoy tender; and *Karl F. Gauss* seiner type; and the icebreaker tugs *Eisbär* and *Eisvogel* (1958), 1,100 H.P.

GERMANY (WEST)

Bundesmarine Administration

Commander of West German Navy:
Vice-Admiral Friedrich Ruge

Naval Attaché in London:
Commander A. Zimmerman

Personnel

2,000 officers and 21,000 men

New Construction Programme

12 Destroyers of about 2,800 tons.
6 Fast frigates of about 1,850 tons.
2 Minelayers of about 2,500 tons.
12 Submarines of about 350 tons.
18 Coastal minesweepers of about 400 tons.
30 Inshore minesweepers of about 200 tons.
40 Motor torpedo boats of about 140 tons.
1 Training vessel of about 4,500 tons.

Also 2 harbour defence boats of 100 tons, 12 torpedo recovery boats, 3 torpedo diving boats, 9 oilers, 8 seagoing tugs, 8 harbour tugs, 1 sail training ship of 1,600 tons, 36 landing ships and 11 fleet supply ships.

The German Government has asked the U.S.A. for the loan of 12 destroyers for six years until the new German destroyers are completed, and has purchased from Great Britain 7 frigates for training purposes.

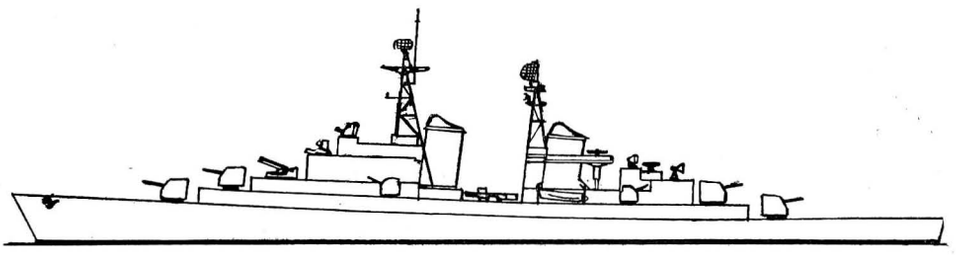
DESTROYERS

12 New Construction

BREMEN **KIEL** **SCHLESWIG-HOLSTEIN**
DÜSSELDORF **MAINZ**
HAMBURG **MÜNCHEN** **STUTTGART**
HANNOVER **SAARBRÜCKEN** **WIESBADEN**

Displacement:	2,850 tons (3,800 tons *full load*)
Dimensions:	423⅜ × 43⅜ × 15¾ feet
Guns:	4—3·9 inch, 54 cal. dual purpose; 8—40 mm. AA. in twin mounts
Tubes:	5—21 inch (quintuple nest), and 2 for ASW torpedoes
A/S weapons:	2 squid three barrelled depth charge mortars
Machinery:	MAN geared turbines. 2 shafts. S.H.P.: 80,000=40 kts.
Complement:	350

Notes
Four being built by H. C. Stülcken Sohn, Hamburg.



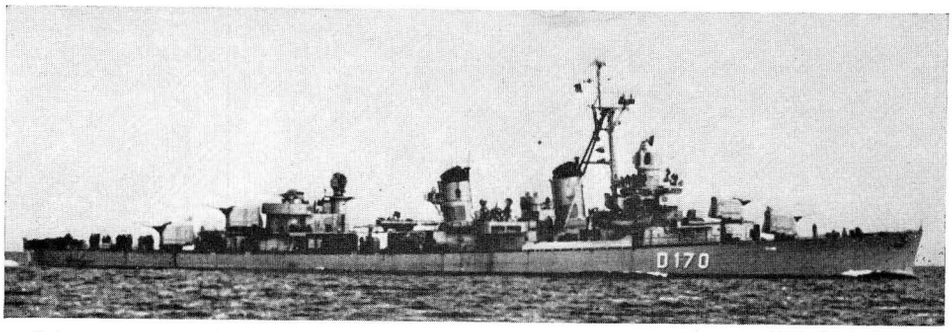
First to be completed in 1961-62, other three in 1962-63. Five more vessels of a larger type projected will be built by Howaldtswerke, Kiel, for delivery in 1963-65, and these are reported to be designed to carry guided missiles with a displacement approaching 6,000 tons. All these ships will be named after countries of the German Federal Republic. *Hamburg* was launched at H. C. Stülcken Sohn, Hamburg, on 26 Mar. 1960, *Schleswig-Holstein* in Aug, 1960.

6 Ex-U.S. " Fletcher " Class

Z 1 (ex-U.S.S. *Anthony*, *DD* 515)
Z 2 (ex-U.S.S. *Ringgold*, *DD* 500)
Z 6 (ex-U.S.S. *Charles Ausburn*, *DD* 570)
Z 3 (ex-U.S.S. *Wadsworth*, *DD* 516)
Z 5 (ex-U.S.S. *Dyson*, *DD* 572)
Z 4 (ex-U.S.S. *Claxton*, *DD* 571)

Displacement:	2,100 tons *standard* (2,750 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal. d.p.; 6—3 inch, 50 cal. AA.
Tubes:	5—21 inch (quintuple bank)
A/S weapons:	2 depth charge throwers
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts. Sea speed: 30 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350

General Notes
Former American " Fletcher " class destroyers. On loan from the United States for five years. *Anthony*, now Z 1 (NATO *Pennant No.* D 170) arrived at Bremerhaven on 14 Apr. 1958. *Ringgold* was transferred by the U.S.A. at Charleston, S.C., on 15 July 1959, *Wadsworth*, *Charles Ausburn*, *Claxton* and *Dyson* were transferred to West Germany by 15 Apr. 1960, at Charleston, S.C.



Z 1 — 1958, *Erich Gröner*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 170	Z 1 *Anthony*	Bath Iron Works Corporation, Maine	17 Aug. 1942	20 Dec. 1942	26 Feb. 1943
D 171	Z 2 *Ringgold*	Federal S.B. & D.D. Co., Port Newark	25 June 1942	11 Nov. 1942	23 Dec. 1942
D 172	Z 6 *Charles Ausburn*	Consolidated Steel Corporation, Orange	14 May 1941	16 Mar. 1942	24 Nov. 1942
D 178	Z 3 *Wadsworth*	Bath Iron Works Corporation, Maine	18 Aug. 1942	10 Jan. 1943	16 Mar. 1942
D 179	Z 5 *Dyson*	Bath Iron Works Corporation, Maine	25 June 1941	15 Apr. 1942	30 Dec. 1943
D 180	Z 4 *Claxton*	Bath Iron Works Corporation, Maine	25 June 1941	1 Apr. 1942	8 Sec. 1942

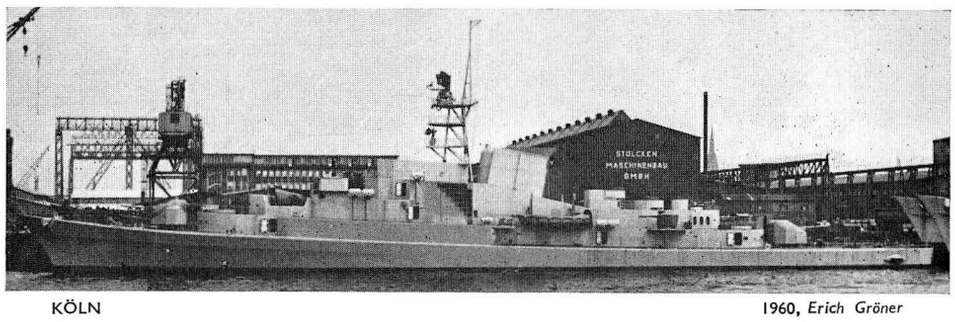
FAST FRIGATES

6 New Construction

AUGSBURG (15 Aug. 1959) **KARLSRUHE** (24 Oct. 1959)
EMDEN (21 Mar. 1958) **KOLN** (6 Dec. 1958)

Displacement:	2,100 tons (2,800 tons *full load*)
Dimensions:	344½ (*pp.*), 357⅜ (*o.a.*) × 34⅛ × 12 feet
Guns:	2—3·9 inch 6—40 mm. AA. (two twin, two single)
Tubes:	2 for ASW torpedoes
A/S weapons:	2 squid three-barrelled depth charge mortars
Machinery:	Combined diesel and gas turbine plant. 4—16 cyl. MAN diesels, B.H.P.: 12,000, coupled to a Brown Boveri gas turbine, B.H.P.: 26,000. 2 shafts. Total B.H.P.: 38,000=30 kts.
Complement:	210

Notes
A new type of fast anti-submarine frigates or escort destroyers. Under construction by H. C. Stülcken Sohn, Hamburg. Ordered Mar. 1957. First to be completed in 1960. Remainder to be delivered by 1961. All the ships of this class will be named after towns of Western Germany.



KÖLN — 1960, *Erich Gröner*

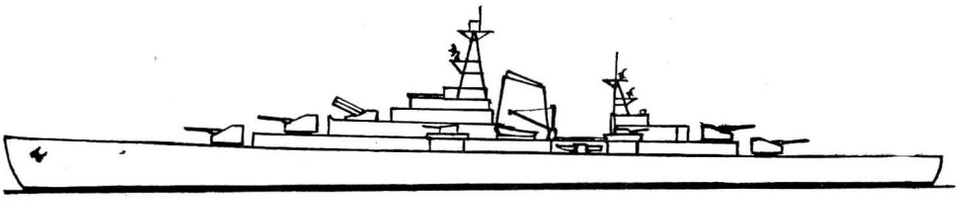
Classed as *Geleitboote*. Launch dates above. Pennant Nos.: F 219 (*Köln*), F 220 (*Emden*), F 221 (*Augsburg*) F 222 (*Karlsruhe*)

TRAINING SHIP

1 New Construction. Cruiser Type

BERLIN

Displacement:	4,500 tons standard (5,500 tons *full load*)
Dimensions:	475¾ × 59 × 14¾ feet
Guns:	4—3·9 inch, 6—3 inch AA., 6—40 mm., AA.
Tubes:	For A/S/ homing torpedoes
A/S weapons:	2 triple barrelled depth charge mortars
Aircraft:	1 helicoptor
Machinery:	Diesel motors and geared turbines. Speed=20 kts.
Complement:	500



Notes
Designed with armament and machinery of different types for training purposes. Ordered from Nobiskrug, Rendsburg. Will carry a helicopter, anti-submarine weapons and torpedo tubes.

FRIGATES (ex-Sloops)

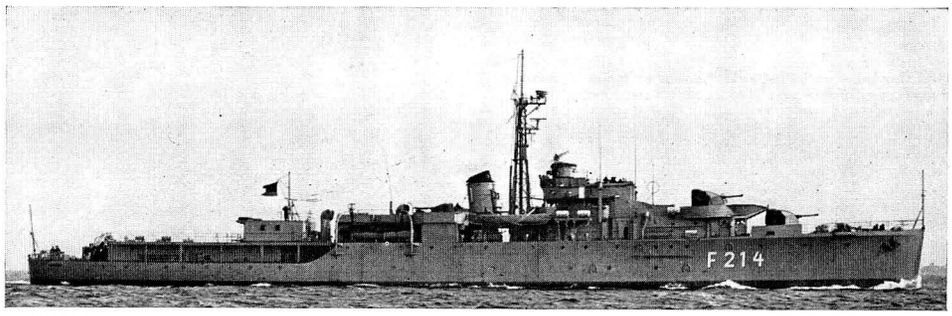
3 Ex-British Later " Black Swan " Class

HIPPER (ex-H.M.S. *Actaeon*)
SCHARNHORST (ex-H.M.S. *Mermaid*)
SCHEER (ex-H.M.S. *Hart*)

Displacement:	1,490 tons *standard* (1,975 tons *full load*)
Dimensions:	300 × 38½ × 11 (*max.*) feet
Guns:	*Hipper*: 4—4 inch AA., 2—40 mm., AA. *Scharnhorst:* 6—4 inch AA., 2—40 mm., AA. *Scheer:* None
A/S weapons:	Split Hedgehog; 4 D.C.T.; 2D.C. racks; 40 D.C.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 4,300=19·75 kts. (designed) Sea speed 18 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	76 (7 officers, 69 ratings) 190 *max.*

Name	*Laid down*	*Launched*	*Completed*
Hipper	15 May 1944	25 July 1945	24 July 1946
Scharnhorst	8 Sep. 1942	11 Nov. 1943	12 May 1944
Scheer	27 Mar. 1942	7 July 1943	12 Dec. 1943

Name	*Builders*
Hipper	John I. Thornycroft & Co. Ltd., Southampton
Scharnhorst	Wm. Denny & Bros. Ltd., Dumbarton
Scheer	Alex. Stephen & Sons Ltd., Govan, Glasgow



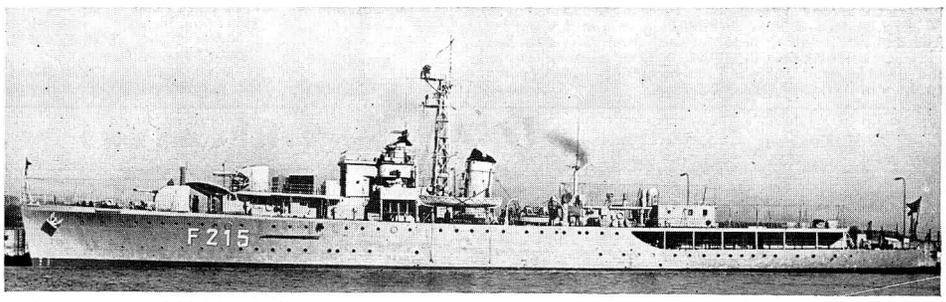
HIPPER (ex-H.M.S. *Actaeon*) 1959, *Bundesmarine, Official*

Notes
Former British frigates (ex-sloops) of the Modified " Black Swan " class. *Hipper* was transferred from Great Britain to the Bundesmarine at Vickers-Armstrongs Ltd., Newcastle-on-Tyne, on 9 Dec. 1958, and commissioned on 10 Jan. 1959 for duty as cadet training ship at Kiel. *Scheer* was handed over at Palmers, Jarrow, on 27 Apr. 1959, and *Scharnhorst* was handed over at Vickers-Armstrongs, Tyne, on 5 May 1959. *Scharnhorst* is employed for gunnery training and *Scheer* for asdic training. Pennant Nos. F 214, F 213 and F 216, respectively.

1 Ex-British " Black Swan " Class

GRAF SPEE (ex-H.M.S. *Flamingo*)

Pennant No.	F 215
Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow
Laid down:	26 May 1938
Launched:	18 April 1939
Completed:	3 Nov. 1939
Displacement:	1,430 tons *standard* (2,015 tons *full load*)
Dimensions:	299½ × 37½ × 11 (*max.*) feet
Guns:	4—4 inch; 2—40 mm. AA.
A/S weapons:	Split Hedgehog, 4 D.C.T.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 4,300=19·25 kts. (designed) Sea speed 18 kts.
Boilers:	2 of three-drum type
Oil fuel:	370 tons
Radius:	4,500 miles at 12 kts.
Complement:	76 (180 *max.*)



GRAF SPEE (*ex*-H.M.S. *Flamingo*) 1959, *Bundesmarine, Official*

Notes
Former British frigate (ex-sloop) of the original " Black Swan " class. Transferred from Great Britain to the Bundesmarine on 21 Jan. 1958 at the Palmers Hebburn Works of Vickers-Armstrongs (Shipbuilders) Ltd., at Hebburn-on-Tyne, where she was refitted, and renamed and commissioned on 21 Feb. 1958 as a cadet training ship based on Kiel.

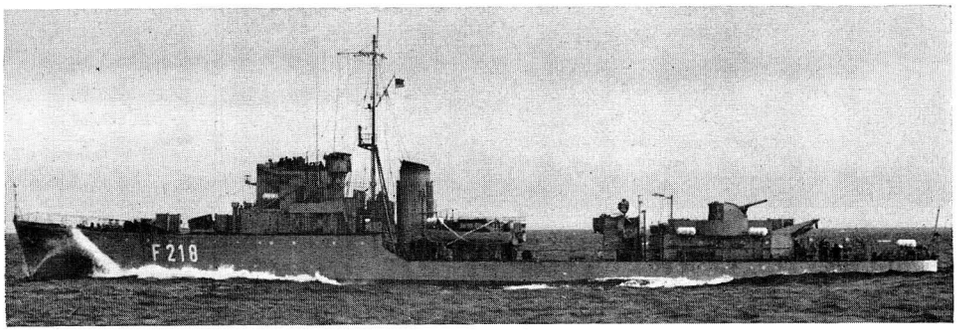
FRIGATES (ex-Escort Destroyers)

2 British " Hunt " Class, Type III

BROMMY (ex-H.M.S. *Eggesford*)
RAULE (ex-H.M.S. *Albrighton*)

Displacement:	1,087 tons *standard* (1,620 tons *full load*)
Dimensions:	264¼ (*pp.*), 280 (*o.a.*) × 31½ × 14 (*max.*) feet
Guns:	2—4 inch AA.; 1—40 mm. AA.
Tubes:	2—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29 kts. (designed) Sea speed 25·5 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	345 tons
Radius:	3,700 miles at 14 kts.
Complement:	70 (170 *max*)

Name:	*Brommy*	*Raule*
Builders:	J. Samuel White & Co. Ltd., Cowes.	John Brown & Co. Ltd., Clydebank
Laid down:	23 June 1941	30 Dec. 1940
Launched:	12 Sep. 1942	11 Oct. 1941
Completed:	21 Jan. 1943	22 Feb. 1942



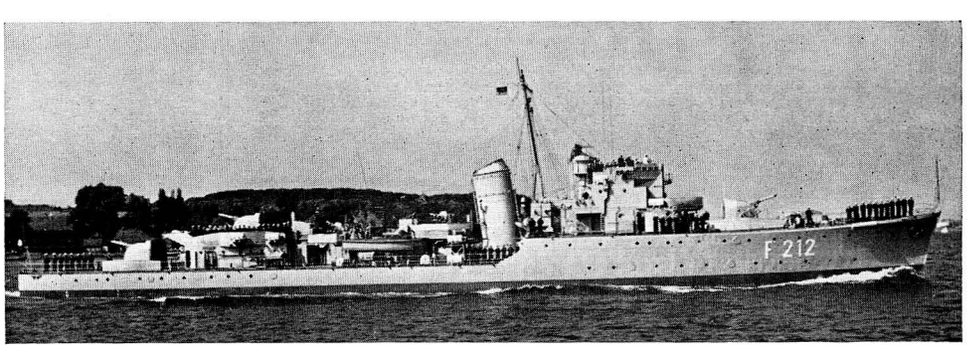
BROMMY (ex-H.M.S. *Eggesford*) 1960, *Bundesmarine, Official*

Notes
Former British frigates (ex-escort destroyers) of the "Albrighton" class ("Hunt " class, Type III). Reconstructed in 1958-59. Both ships were transferred from Great Britain to the Bundesmarine in 1959. Commissioned on 14 May 1959. Rated as training ships for the submarine weapons school. Pennant Nos. F 218 and F 217, respectively.

1 British " Hunt " Class, Type II

GNEISENAU (ex-H.M.S. *Oakley*, ex-*Tickham*)

Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow
Laid down:	19 Aug. 1940
Launched:	15 Jan. 1942
Completed:	7 May 1942
Displacement:	1,050 tons *standard* (1,610 tons *full load*)
Dimensions:	264¼ (*pp.*), 280 (*o.a.*) × 31½ × 14 (*max.*) feet
Guns:	6—4 inch AA.; 2—40 mm. AA.;
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29 kts. (designed). Sea speed 25 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	345 tons
Radius:	3,600 miles at 14 kts.
Complement:	82 (7 officers, 75 ratings) 150 *max.*



GNEISENAU (ex-H.M.S. *Oakley* 1960, *Werner Schiefer*

Notes
Former British frigate (ex-escort destroyer) of the " Blankney " class (" Hunt " class, Type II). Purchased from the Royal Navy in Nov. 1957. Officially taken over by the German Federal Navy, after refit in Great Britain, at Langton Branch Dock, Harland & Wolff Ltd., Liverpool, on 2 Oct. 1958. Commissioned and re-named at Bremerhaven on 18 Dec. 1958. Now fitted with stabilisers, radar, and cowl on funnel. Employed as a training ship by the German Naval Gunnery School. Pennant No. F 212.

SUBMARINES

12 New Construction

Displacement: 350 tons

Notes
Under construction in Germany by Howaldts Werke, Kiel, for delivery in 1960-61. Similar to XXIII type but it is reported that they will have no turret fin.

3 Midget Type

Displacement: 100 tons

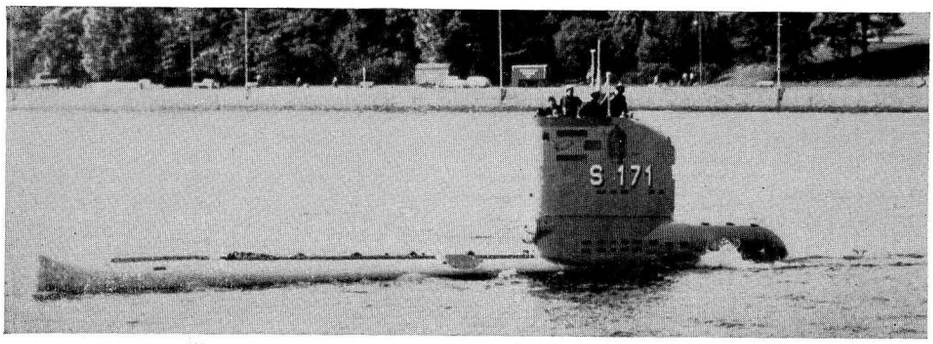
Notes
Under construction by Atlas Werke, Bremen, for delivery in 1960. Will be employed for electric trial purposes.

1 Type XXI

WILHELM BAUER (*ex Wal, ex-U* 2540) *Pennant No.:* S 172

Displacement:	1,620 tons *surface* (1,820 tons *submerged*)
Dimensions:	252⅔ × 21⅔ × 20½ feet
Tubes:	6—21 inch (bow)
Machinery:	MAN diesels. 2 shafts. B.H.P.: 4,000=15 kts., *surface* 2 electric motors. H.P.: 5,000=17·5 kts. *submerged*
Oil fuel:	250 tons
Radius:	11,000 miles at 12 kts.
Complement:	57

Notes
German Second World War Type XXI. Launched in 1944 by Blohn and Voss, Hamburg. Sunk on 3 May, 1945. Raised in 1957. Rebuilt in 1958-59 at Howaldts Werke, Kiel, for commissioning on 1 Sep. 1960. Will be used for training and experimental purposes (officially under the Federal Ministry of Agriculture and Fisheries).



HECHT 1958, *Erich Gröner*

2 Type XXIII

HAI (ex-*UW* 20, ex-*U* 2365) NATO *Pennant No.:* S 170
HECHT (ex-*UW* 21, ex-*U* 2367) NATO *Pennant No.:* S 171

Displacement:	180 tons *standard*, 232 tons *surface* (256 tons *submerged*)
Dimensions:	112 × 10 × 12 feet
Tubes:	2—21 inch (bow)
Machinery:	1 MWM diesel. 1 shaft. B.H.P.: 580=9·7 kts. *surface* 1 Electric motor. H.P.: 600=12·5 kts. *submerged*. 1 Electric motor. H.P.: 35=2 kts. *submerged*
Oil fuel:	18 tons
Radius:	1,350 miles at 9 kts.
Complement:	16

Notes
German war type XXIII. Built in 1944 at Deutsche Werft, Hamburg. Raised in Western Baltic 1956, rebuilt at Howaldts Werke, Kiel, 1957. Used for ASW training, submarine crew training, and testing sonar, radar and other submarine equipment. *Hai* (Shark) was commissioned on 17 Aug. 1957, *Hecht* (Pike) was commissioned on 1 Oct. 1957. Both in service in 1958.

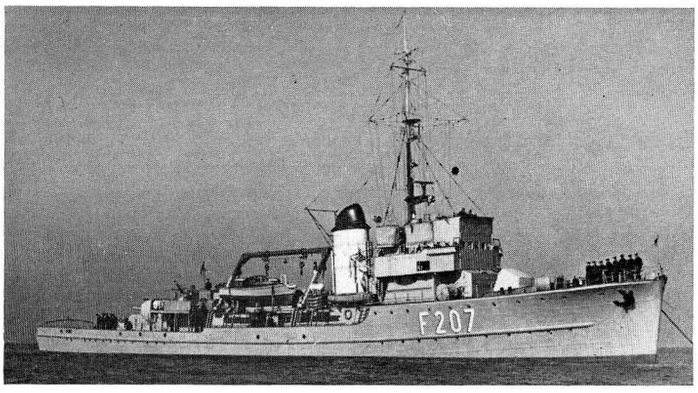
MINELAYERS

2 New Construction

Displacement:	2,500 tons	Mines:	100
Dimensions:	420 × 42 × 14 feet	Machinery:	Diesels. S.H.P.: 70,000=40 kts.

Notes
A new type of fast minelayer to be built under the new programme. Planned but not yet ordered.

CORVETTES



BIENE 1960, *Werner Schiefer*

5 M 35 Type

BIENE (ex-*Belfort*, ex-*M* 205)
BREMSE (ex-*Vimy*), ex-*M* 253)
BRUMMER (ex-*Yser*, ex-*M* 85)
HUMMEL (ex-*Laffaux*, ex-*M* 81)
WESPE (ex-*Ailette*, ex-*M* 24)

Displacement:	717 tons *standard* (874 tons *full load*)
Dimensions:	229⅔ × 28½ × 9 feet
Guns:	1—4·1 inch, 1—40 mm. AA., 8—20 mm. AA. (*Brummer* and *Wespe* have 4—20 mm. AA.)
A/S weapons:	1 hedgehog, 2 depth charge throwers
Machinery:	2 Lentz double Expansion. 2 shafts. I.H.P.: 3,500=18 kts.
Boilers:	2 high pressure Wagner
Oil fuel:	123 tons
Radius:	1,440 miles at 9 kts.
Complement:	100

Notes
Former German M 35 type. Completed in 1940-42. Transferred to French Navy after the Second World War. Turned over to the German Federal Republic Navy in Dec. 1956 (Purchase approved 10 Nov. 1956). Employed for training purposes. Refitted in 1958. Formerly classed as large minesweepers, but subsequently re-rated as *geleitboote* (escort vessels) or corvettes, with frigate pennant Nos. F 207-F 211, and classed as *schulboote* (Cadet Training Ships) in 1960, for training Naval Cadets and Upper Yardmen Candidates.

Ocean Minesweeper Notes
All six of the coal-burning ocean minesweepers built during the second World War, namely *Seeschlange* of the " M 43 " type, and *Seepferd*, *Seestern*, *Seehund*, *Seeigel*, and *Seelowe* of the " M 40 " type, are out of commission and stricken from the Navy List. All the vessels were placed in reserve in 1959-60 and laid up as accommodation vessels in several naval bases. (Full particulars and photographs in the 1959-60 and earlier editions.)

COASTAL MINESWEEPERS

6 French " Mercure " Type

BINGEN **HAMELN** **VEGESACK**
DETMOLD **PASSAU** **WORMS**

Displacement:	362 tons *standard* (378 tons *full load*)
Dimensions:	137¾ (*pp.*), 144½ (*o.a.*) × 26¼ × 9 feet
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. Kamewa variable pitch propellers. B.H.P.: 4,000=16 kts
Complement:	40

Coastal Minesweepers—*continued*



VEGESACK 1960, *Bundesmarine, Official*

Notes
Built in France by Constructions Mécaniques de Normandie, Cherbourg, under the " off-shore " programme for the Federal German Navy. All similar to the French *Mercure*, except for slight differences in details and armament. *Vegesack* was launched on 21 May 1959 and *Hameln* on 20 Aug. 1959. *Vegesack* commissioned on 10 Sep. 1959. *Detmold* on 20 Feb. 1960, and *Worms* on 30 Apr. 1960. Pennant Nos.: M 1250 (*Vegesack*), M 1251 (*Hameln*), M 1252 (*Detmold*), M 1253 (*Worms*).



WEILHEIM 1960, *Bundesmarine, Official*

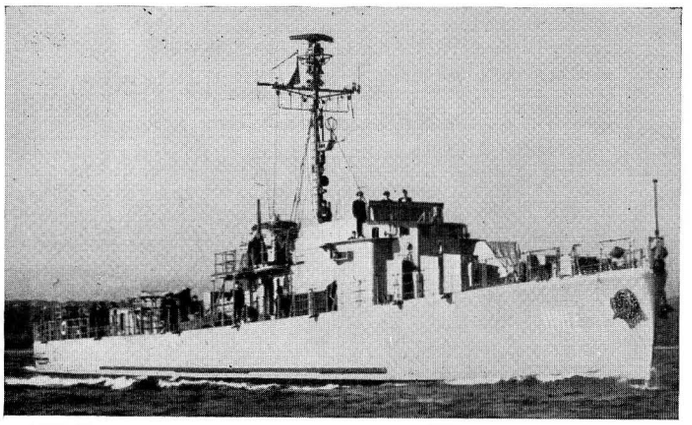
18 U.S. MSC Type

CUXHAVEN	**KOBLENZ**	**PADERBORN**	**VÖLKLINGEN**
DÜREN	**KONSTANZ**	**SCHLESWIG**	**WEILHEIM**
FLENSBURG	**LINDAU**	**TUBINGEN**	**WETZLAR**
FULDA	**MARBURG**	**ULM**	**WOLFSBURG**
GÖTTINGEN	**MINDEN**		

Displacement:	370 tons *standard* (425 tons *full load*)
Dimensions:	137¾ (*pp.*), 147⅔ (*o.a.*) × 27¼ × 8½ feet
Guns:	1—40 mm. AA.
Machinery:	Maybach diesels. 2 shafts. B.H.P.: 4,000=15-16 (*max.*) kts.
Complement:	46

Notes
Lindau, first German-built vessel for the new West German Navy since the war, was launched at Burmester, Burg, on 16 Feb. 1957. Built by Yacht & Bootswerft, Burmester, Bremen-Burg. Eleven similar *Küstenminlnsuchboote* were built *in* German yards in 1958. Six more were built by Chant. et Atl. Mécaniques Normandie, Cherbourg, France, for delivery in 1959-60. Similar to standard wooden hulled minesweepers being added to French, Netherlands and British navies. The hull is of entirely wooden construction and laminated with plastic glue. The engines are built of non-magnetic materials. The first six were modified with lower bridges in 1958-59. Weilheim is the birthplace of the Minister of Defence, Herr Franz Josef Strauss. NATO *Pennant Nos.*: M 1078, 1079, 1034, 1086, 1070, 1071, 1081, 1072, 1080, 1085, 1076, 1073, 1074, 1083, 1087, 1077, 1075, and 1082, respectively. *Fulda* commissioned on 5 Mar. 1960 and *Völklingen* on 21 May 1960.

PATROL VESSEL



UW 12 1958, *courtesy Herr W. Schiefer*

Submarine Chaser (PC) type

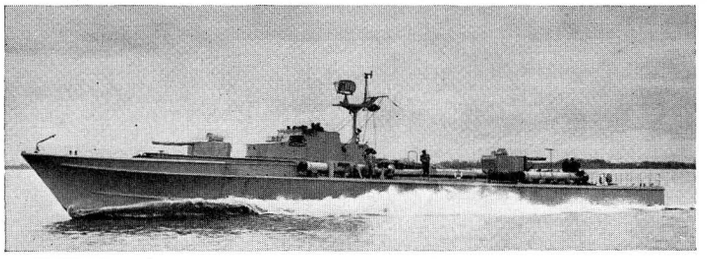
UW 12 (ex-*PC* 1618, ex-*P* 9) NATO *Pennant No.*: W 51

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*) × 23 × 6½ feet
Guns:	1—40 mm. Bofors AA.; 2—20 mm. AA.
A/S weapons:	1 hedgehog, 4 D.C.T., 2 D.C. racks
Machinery:	4 Pielstick-SEMT light and fast diesels coupled 2 by 2. B.H.P.: 3,240=18·7 kts.
Radius:	2,500 miles at 12 kts.; 2,000 miles at 15 kts.
Complement:	62

Notes

Built in France by Dubigeon, Nantes, under a U.S.A. off-shore order. Completed in 1955. Purchased by Germany in 1957. Commissioned on 17 Apr. 1957. Employed for trial purposes at the submarine weapons school.

MOTOR TORPEDO BOATS



JAGUAR 1958, *courtesy Erich Gröner*

40 Schnellboot Type

ALBATROS P 6069	**HABICHT** P 6075	**LEOPARD** P 6060	**SEEADLER** P 6068
ALK P 6084	**HÄHER** P 6087	**LOWE** P 6065	**SPERBER** P 6076
BUSSARD P 6074	**ILTIS** P 6058	**LUCHS** P 6061	**STORCH** P 6085
FALKE P 6072	**JAGUAR** P 6059	**MARDER** P 6067	**TIGER** P 6063
FUCHS P 6066	**KONDOR** P 6070	**PANTHER** P 6064	**WEIHE** P 6078
GEIER P 6073	**KORMORAN** P 6077	**PELIKAN** P 6086	**WOLF** P 6062
GREIF P 6071	**KRANICH** P 6083		

Displacement:	150 tons *standard* (183 tons *full load*)
Dimensions:	138 × 22 × 5 feet
Guns:	2—40 mm. AA. (single)
Tubes:	4—21 inch
Mines:	(2 torpedo tubes can be removed for 4 mines)
Machinery:	Mercedes-Benz or Maybach diesels. 4 shafts. B.H.P.: 12,000=43·5 kts.
Complement:	39

Notes

32 built by Fr. Lürssen, Bremen-Vegesack in 1957-60. Eight built by Krögerwerft, Rendsburg in 1957-59. Convertible MTBs and MGBs. Steel and light metal hulls. NATO *Pennant Nos.*: P 6058 *et seq.* (see above). *Kormoran* commissioned on 9 Nov. 1959, *Kranich* on 12 Dec. 1959, *Alk* on 14 Jan. 1960, *Storch* on 12 Mar. 1960, *Pelikan* on 30 Mar. 1960, and *Häher* on 5 Apr. 1960.



SILBERMÖWE 1960, *Werner Schiefer*

6 S-Boot Type

EISMÖWE (ex-*S* 1) P 6055	**SILBERMÖWE** (ex-*Silver Gull*) P 6052
RAUBMÖWE (ex-*S* 2) P 6056	**STURMMÖWE** (ex-*Storm Gull*) P 6053
SEESCHWALBE (ex-*S* 3) P 6057	**WILDSCHWAN** (ex-*Wild Swan*) P 6054

Displacement:	110 tons *standard* (155 tons *full load*)
Dimensions:	115 × 16¾ × 6 feet
Guns:	1—40 mm. AA. or 4—20 mm. AA. (see *Notes*)
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz Diesels. B.H.P.: 7,500=38 kts. (*Seeschwalbe* has Maybach diesels; last three B.H.P.: 9,000=40 kts.)
Radius:	600 miles
Complement:	19

Notes

Built by Lürssen, Vegesack, *Silver Gull*, *Storm Gull* and *Wild Swan* in 1952-55, and *S1*, *S2* and *S3* in 1955-56. First two commissioned 2 July 1956, third 16 Apr. 1957. First three have 4—20 mm. guns, remaining three have 1—40 mm. gun. NATO *Pennant Nos.* above.

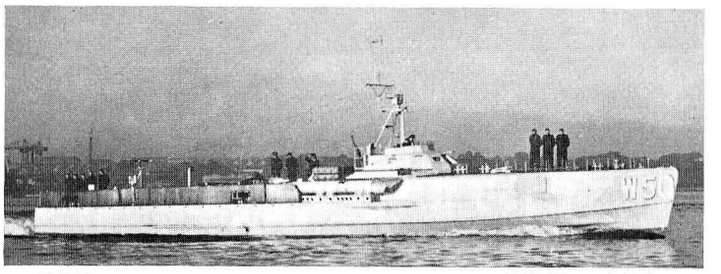
Motor Torpedo Boats—*continued*

"2 Nasty Type"

Displacement:	69 tons *standard* (74 tons *full load*)
Dimensions:	80⅓ (*o.a.*) × 25½ × 6½ feet
Guns:	2—40 mm. Bofors AA.
Tubes:	4—21 inch
Machinery:	2 Napier turbo blown Deltic diesels. B.H.P.: 6,200=45 kts.
Complement:	22

Notes

Ordered from Boat Services Ltd., A/S., Norway, in May 1959.



UW 11 1960, *Werner Schiefer*

Training Vessels

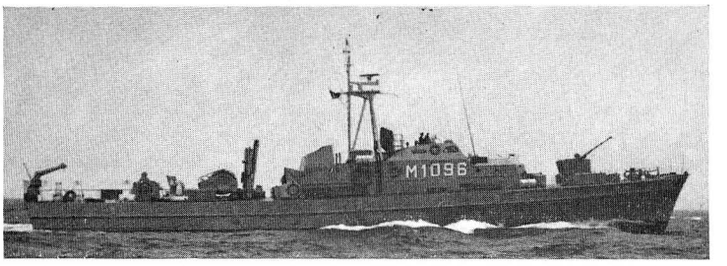
UW 10 (ex-*FPB* 5230, ex-*S* 130) **UW 11** (ex-*FPB* 5208, ex-*S* 208)

Displacement:	105 tons
Dimensions:	114½ (*o.a.*) × 27⅜ × 7 feet
Tubes:	2—21 inch
Machinery:	UW 10: 3 Napier-Deltic diesels. B.H.P.: 9,000=40 kts UW 11: 3 Mercedes-Benz diesels. B.H.P.: 7,500=39 kts.
Oil fuel:	20 tons
Radius:	700 miles at 30 kts.

Notes

Former German "S" boats built by Schlichting, Travemünde, and Lurssen, Vegesack, Launched in 1944-45. Employed on fishery protection duties after the Second World War operating from Hamburg under the administration of the British Flag Officer, Germany. Reconstructed in 1955-56. Rated as *Schulboote*. NATO *Pennant Nos.*: W 49 and 50.

INSHORE MINESWEEPERS



GEMMA 1960, *Bundesmarine, Official*

30 New Construction Fast Motor Type

FISCHE	**MIRA**	**STIER**
GEMMA	**SCHUTZE**	**WAAGE**
KREBS	**STEINBOCK**	**WIDDER**

Displacement:	210 tons *standard* (266 tons *full load*)
Dimensions:	144½ (*pp.*), 154⅞ (*o.a.*) × 22¼ × 7¼ feet
Guns:	2—40 mm. AA. (single)
Machinery:	Maybach diesels. 2 shafts. Voith Schneider propellers. B.H.P.: 3,600=24·6 kts.
Complement:	39

Notes

Fische, *Krebs*, *Mira*, *Schutze*, *Steinbock*, *Stier* and *Waage* were built by Abeking & Rasmussen, Lemwerder, *Widder* by Schurenstedt, Bardenfl., KM 26-30 by Schlichting, Travemünde. Design is a German type of fast minesweeper, a development of the "R" boats of the Second World War. All the boats of this class will be named after stars. The later boats will have Escher-Wyss propellers. *Schutze* commissioned on 14 Apr. 1959, *Gemma* on May 10 1960. Pennant Nos.: M 1090 (*Schutze*), M 1091 (*Steinbock*), M 1092 (*Stier*), M 1093 (*Krebs*), M 1094 (*Waage*), M 1095 (*Widder*), M 1096 (*Gemma*), M 1097 (*Fische*), M 1098 (*Mira*).



MERKUR *Added* 1959, *Herr Alexander Bredt*

20 "R" Types

CASTOR (ex-*R* 138)	**ORION** (ex-*R* 132)	**RIGEL** (ex-*R* 135)
MERKUR (ex-*R* 134)	**REGULUS** (ex-*R* 142	**SATURN** (ex-*R* 146)

Displacement:	150 tons
Dimensions:	135 × 19 × 5¼ feet
Guns:	2—20 mm. AA. (*Castor* and others have 4—20 mm. AA.)
Machinery:	Diesel. B.H.P.: 2,200=19 kts. 2 Voith-Schneider propellers

Notes

Transferred by U.S. Navy, being returned to Germany in 1956. NATO *Pennant Nos.*: M 1051, 1066, 1053, 1055, 1056 and 1057, respectively. *Capella*, *Mars*, *Pollux*, *Sirius* and *Spica* were taken out of service on 20 Feb. 1959. *Jupiter* was renamed OT 1 for training duties (see next page).

Inshore Minesweepers—*continued*



ALGOL — 1960, *Werner Schiefer*

"R" Types—*continued*

ALDEBARAN (ex-*R* 131, ex-*R* 91)
ALGOL (ex-*R* 148, ex-*R* 99)
ARKTURUS (ex-*R* 151, ex-*R* 128)
DENEB (ex-*R* 141, ex-*R* 127)
PEGASUS (ex-*R* 143, ex-*R* 68)
SKORPION (ex-*R* 139, ex-*R* 120)
WEGA (ex-*R* 130, ex-*R* 67)

Displacement:	125 tons
Dimensions:	124×19×4⅔ feet
Guns:	1—20 mm. AA.
Machinery:	2 MAN diesels. B.H.P.: 1,840=20 kts. 2 Voith-Schneider propellers
Complement:	27

Notes
NATO *Pennant Nos.*: M 1060, 1061, 1062, 1064, 1067, 1068 and 1069, respectively. *Atair* (ex-*R* 145, ex-*R* 76) was taken out of commission in 1960.

Training Vessels

AT 1 (ex-*R* 152, ex-*R* 266)
AT 2 (ex-*R* 154, ex-*R* 406)
OT 1 (ex-*Jupiter*, ex-*R* 137)

Displacement:	140 tons
Dimensions:	128⅔×18¾×5½ feet
Guns:	4—20 mm. AA. (armaments vary)
Machinery:	2 MWM diesels. 2 shafts. B.H.P.: 2,550=21 kts.

Notes
Classed as training vessels, AT boats for naval gunnery training, OT boat for asdic training. NATO *Pennant Nos.*: W 61, 62 and 52, respectively. OT 1 (ex-*R* 153, ex-*R* 407) was taken out of service on 20 Feb. 1959 and replaced by *Jupiter*, renamed OT 1. Three more "R" types used for training are rated as patrol vessels, see next column.

PATROL BOATS



NIOBE — 1959, *Bundesmarine, Official*

10 New Construction. "Niobe" Type

HANSA (18 Nov. 1957) NATO *Pennant No.*: W 22
NIOBE (8 Aug. 1957) NATO *Pennant No.*: W 21

Displacement:	150 tons *standard* (180 tons *full load*)
Dimensions:	108 (*pp.*), 113½ (*o.a.*)×21⅓×5½ feet
Guns:	1—40 mm. AA.
A/S weapons:	D.C.
Machinery:	2 Mercedes-Benz diesels. B.H.P.: 1,900=17 kts.
Complement:	16

Notes
Inshore minesweeping patrol boats, the design of which was strongly influenced by that of the British inshore minesweepers of the "Ham" class. *Hansa* and *Niobe* were built by Krögerwerft, Rendsburg, where eight more are under construction. Rated as *Hafenschutzboote* (harbour defence boats).

Coastal Patrol Boat Type (*Küstenwachboote*)

KW 1 (ex-*H* 1, ex-*W* 1, ex-*KFK* 319)
KW 2 (ex-*H* 2, ex-*W* 2, ex-*KFK* 613)
KW 3 (ex-*H* 3, ex-*W* 3, ex-*KFK* 561)
KW 4 (ex-*H* 4, ex-*W* 13)
KW 5 (ex-*H* 5, ex-*W* 14)
KW 6 (ex-*H* 6, ex-*W* 15)
KW 7 (ex-*H* 7, ex-*W* 16)
KW 8 (ex-*H* 8, ex-*W* 17)
KW 9 (ex-*H* 9, ex-*W* 18)
KW 10 (ex-*H* 10, ex-*W* 19)

Displacement:	112 tons
Dimensions:	78¾×22×9 feet
Guns:	1—20 mm. AA., 2 M.G.
Machinery:	1 diesel motor. B.H.P.: 150=9 kts.
Radius:	1,200 miles
Complement:	16

Notes
KFK (*Kriegsfischkutter*) type picket boats (wachtboote). Launched in 1943. Rebuilt in 1951-52. Photograph of *H* 4—*H* 7 in the 1957-58 and earlier editions. Rated as *Hafenschutzboote* (harbour defence boats) until 1960 when they were re-rated as *Küstenwachboote*. NATO *Pennant Nos.*: W 1-10.

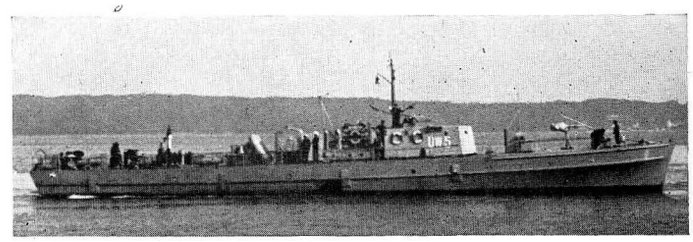
Patrol Boats—*continued*

1 Ex-U.S. YMS Type

ADOLF BESTELMEYER (ex-U.S. MSC)

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×8 feet
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,000=15 kts

Notes
Of U.S. YMS type. Built in 1943. Used for gunnery purposes. Pennant No.: Y881.



UW 5 — 1958, *courtesy Herr W. Schiefer*

3 "R" Types

UW 4 (ex-*R* 150)
UW 5 (ex-*R* 149, ex-*R* 101)
UW 6 (ex-*R* 155, ex-*R* 408)

Displacement, Dimensions, Guns, Machinery: See "R" Types under Inshore Minesweepers in previous columns

Notes
Former "R" boats of the 150 tons, 125 tons and 140 tons type, respectively, now training vessels for submarine weapons school. Rated as *Schulboote*. NATO *Pennant Nos.*: W 46, 47, 48.

5 Ex-Canadian "MMS 1" Type

FM 1 (ex-*W* 7, ex-*Pierre Mené*)
FM 2 (ex-*W* 8, ex-*Malgré Tout*)
UW 1 (ex-*W* 10, ex-*Adrien Magnier*)
TM 1 (ex-*UW* 3, ex-*W* 12, ex-*No.* 186)
TM 2 (ex-*UW* 2, ex-*W* 11, ex-*Miss Andrée*)

Displacement:	140 tons
Dimensions:	118×22×11 feet
Guns:	1—20 mm. AA.
Machinery:	(FM 1, 2, UW 1, TM 2) 1 Fairbanks-Morse diesel. B.H.P.: 450=11 kts. (TM 1) 1 National diesel. B.H.P.: 500=11 kts.
Oil Fuel:	23 tons
Radius:	3,300 miles
Complement:	18

Notes
Ex-Canadian built MMS 1 fitted with high fo'c's'le. These vessels were Belgian fishing vessels before being bought and rebuilt by Germany. Re-rated training vessels in 1957, *FM* boats for *fernmelde* (telecommunications), *UW* 1 for underwater training, and *TM*-boats for divers. *FM* 3, ex-*W* 9, was taken out of service on 3 Oct. 1959, and *UW* 2 was renamed *TM* 2. NATO *Pennant Nos.*: W 54, 55, 44, 53 and 45, respectively.



KW.20 — 1959, *courtesy Herr Alexander Bredt*

6 "KW" Trpe

KW 15 (ex-*H* 15)
KW 16 (ex-*H* 16)
KW 17 (ex-*H* 17)
KW 18 (ex-*H* 18)
KW 19 ex-*H* 19
KW 20 (ex-*H* 20

Displacement:	70 tons *standard* (90 tons *full load*)
Dimensions:	93½×15½×4 feet
Guns:	2—20 mm. AA.
Machinery:	4 Mercedes-Benz diesels. 2 shafts. B.H.P.: 1,600=25 kts. (last three, B.H.P.: 2,000)
Complement:	18

Notes
Formerly USN 54, 55, 56, 57, 58, 59, ex-Weser River patrol boats similar to FL 5-8 below) Launched in 1951-53. NATO*Pennant Nos.*: W 15-20. Re-rated as *Kustenwachboote* in 1960, *KW* 19 has been allocated to the Gunnery School as a training vessel.

4 "FL" Type

FL 5 (ex-*H* 11, ex-*P* 1)
FL 6 (ex-*H* 12, ex-*P* 2)
FL 7 (ex-*H* 13, ex-*P* 3)
FL 8 (ex-*H* 14, ex-*P* 4)

Displacement:	60 tons
Dimensions:	83 (*pp*), 93½ (*o.a.*)×15½×4 feet
Guns:	Removed
Machinery:	2 Mercedes-Benz diesels. B.H.P.: 2,000=25 kts.
Complement:	16

Notes
Built 1951-52. All ten are similar to U.S. Coast Guard 93-ft. type. Formerly rated as harbour defence vessels, but re-rated as *Flugsicherungboote* (crash boats) in 1959. NATO *Pennant Nos.*: W 11-14. Photograph of *FL* 6, ex-*H* 12, in 1957-58 and earlier editions.

TORPEDO RECOVERY BOATS

5 New Construction PC Type

Displacement: 500 tons
Dimensions: 226½×25⅔×7½ feet
Guns: 3—40 mm. AA.
Machinery: MAN diesels. 2 shafts. BHP: 6,000=24 kts.

Notes
Being built by Roland Werft, Bremen-Hemelingen for delivery in 1960-61. These *Torpedofangboote* would be used as submarine chasers in wartime.

2 Training Type

TF 25 **TF 26**

Displacement: 25 tons
Dimensions: 74×13¾×4 feet
Machinery: Diesels. 1 shaft. B.H.P.: 320=14½ kts.
Oil fuel: 2 tons
Radius: 1,300 miles at 12 kts.

Notes
Former German Air Force torpedo recovery boats. Patrol vessels employed as training tenders. NATO *Pennant Nos.*: Y 806 and 807.

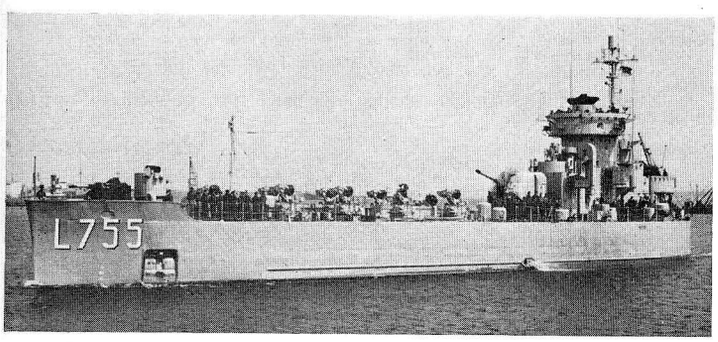
4 Harbour Patrol Boat Type

TF 101 **TF 102** **TF 103** **TF 104**

Displacement: 110 tons
Machinery: Speed=10 kts.

Notes
Of the KFK type. Built in 1944. Pennant Nos. Y 883, T 884, Y 885, and Y 886, respectively.

MEDIUM LANDING SHIPS (ROCKET)



NATTER 1960, *Bundesmarine, Official*

NATTER L 755 (ex-U.S.S. *Thames River*, LSM(R) 534)
OTTER L 754 (ex-U.S.S. *Smyrna River*, LSM(R) 532)

Displacement: 994 tons (*attack*), 1,084 tons *full load*
Dimensions: 204½ (*w.l.*), 206¼ (*o.a.*)×34½×7¼ feet
Guns: 1—5 inch, 4—4·2 inch mortars, 4—40 mm. AA., 8—20 mm. AA., 10—5 inch rocket projectors
Machinery: General Motors diesels. 2 shafts. B.H.P.: 2,800=12·6 kts.
Complement: 100 to 130

General Notes
Former United States Medium Landing Ships (Rocket). Rated as *Landungsünterstützungsboote* (see *Notes* below).

New Construction Notes
Six new Medium Landing Ships are planned under the New Construction Programme. It is reported that they will be similar to the U.S. LSM type.

MEDIUM LANDING SHIPS



SALAMANDER 1960, *Bundesmarine, Official*

EIDECHSE L 751 (ex-U.S.S. *LSM* 491) **SALAMANDER** L 752 (ex-U.S.S. *LSM* 553)
KROKODIL L 750 (ex-U.S.S. *LSM* 537) **VIPER** L 753 (ex-U.S.S. *LSM* 558)

Displacement: 743 tons *beaching* (1,095 tons *full load*)
Dimensions: 196½ (*w.l.*), 203¼ (*o.a.*)×34½×8½ feet
Guns: 2—40 mm. AA.
Machinery: General Motors diesels, direct drive. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement: 50 to 59

General Notes
Rated as *Landungsboote*. All the above six landing ships (two LSM(R) and four LSM types) were purchased from the United States for about $6,000,000 and transferred to Germany on 5 Sep. 1958 at Charleston, S.C. Refitted in 1959. They constitute the German *Landungageschwader* 2.

Helicopter Notes
Krokodil has a landing deck for helicopters aft, and all the squadron could be so fitsed.

LAUNCHES

FL 1 (ex-*FL* 51, ex-*MSM* 2) **FL 2** (ex-*FL* 52, ex-*MSM* 3) **FL 3** (ex-*FL* 50, ex-*MSM* 1)

Displacement: 56 tons *standard* (75 tons *full load*)
Dimensions: 90×16¾×5¾ feet
Machinery: Diesels. 2 shafts. B.H.P.: 1,650=25 kts.

Notes
Ex-German Air Force sea rescue launches. Formerly USN 51, 52, 50. Same type as British ML 6009. Now tenders of the Naval Academy (Marineschule) in Mürwick. NATO *Pennant Nos.*: 57, 58 and 59.

FL 4 (ex-*Falke*, ex-*FL* 4)

Displacement: 30 tons
Dimensions: 62⅔×10½×4 feet
Machinery: Diesel motors. B.H.P.: 300=14 kts.

Notes
Built in 1939 at Krögerwerft, Warnemunde. Smaller type of aircraft rescue boat of the Second World War. Photo in 1955-56 edition. *Pennant No.*: W 60.

SAIL TRAINING SHIPS

1 Improved "Horst Wessel" Type

GORCH FOCK

Displacement: 1,860 tons
Dimensions: 229⅔ (*w.l.*), 257 (*o.a.*)×39⅓×15⅔ feet
Machinery: Auxiliary MAN diesels. B.H.P.: 800=10 kts.
Sail area: 21,141 sq. ft.
Radius: 1,990 miles
Complement: 267, plus 200 cadets

Notes
Sail training ship of the "Horst Wessel" type. Barque rig. Launched by Blohm & Voss, Hamburg on 23 Aug. 1958 and completed on 17 Dec. 1958.

1 "KFK" Type

NORDWIND

Displacement: 100 tons
Dimensions: 78¾×22×9 feet
Sail area: 2,037½ sq.ft
Machinery: Diesel. B.H.P.: 150=8 kts.

Notse
Ketch, ex-Kriegsfischkutter (KFK). Formerly under the administration of the Ministry of Interior. Photograph in the 1954-55 edition.

SUPPLY SHIPS (*Tross-schiffe*)

ANGELIN (ex-*Borée*) **DITHMARSCHEN** (ex-*Hebe*)

Measurement: 2,111 tons *gross*
Machinery: Pielstick diesels. 2 shafts. B.H.P.: 3,000=17 kts.

Notes
Built by S.N. Caënaise, Caen. Launched in 1955. Commissioned on 27 Nov. 1959 and 19 Dec. 1959, respectively. Pennant Nos.: A 56 and A 57, respectively. Rated as *Material-transporter*.

TENDERS

KNURRHAHN **ALTER HAFEN** **ARCONA**

Notes
Accommodation vessels. Ships of the former German Navy transferred from U.S.A. Pennant Nos.: Y 811, Y 810, and Y 809, respectively.

MEMMERT (ex-U.S.N. 106, ex-*India*, ex-*BP* 34)

Measurement: 270 tons *gross*
Dimensions: 100 (*pp*), 108¼ (*o.a.*)×31×5¾ feet
Machinery: 2 diesels. 2 shafts
Complement: 5

Notes
Salvage vessel with a derrick. Built in 1940 at Walsum (Rhine river). Now rated as *Torpedoklarmachschiff* (torpedo repair ship). NATO *Pennant No.*: Y 805.

FRIEDRICH VÖGE
Measurement: 189 tons *gross*

Notes
Former tug, now tender of the Marine Waffer Erprobungsstelle in Eckernförde.

KARL KOLLS (ex-*Salmo*)
Measurement: 189 tons *gross*

Notes
Former small freighter. Now tender of the Marine Waffer Erprobungsstelle in Eckernförde.

SURVEYING VESSELS

Surveying Vessel Notes
Surveying vessels include *Süderoog*, *Gauss*, *Hooge*, *Ruden*, *Altair*, *Rungholt* and *Wega* (full particulars and photographs of which appear in the 1959-60 and earlier editions), but all these belong to the Federal Ministry of Transport and were officially deleted from the Navy List in 1960.

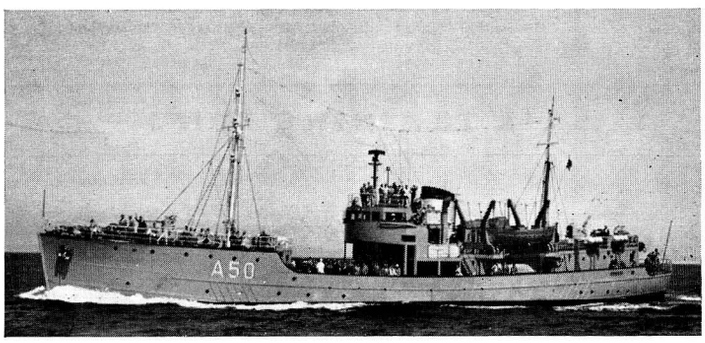
DEPOT AND REPAIR SHIPS

11 New Construction

RHEIN (10 Dec. 1959) *Pennant No.*: A 61

Displacement	1,800 tons
Dimensions	262½ × 39½ × 17 feet
Guns:	2—4 inch AA., 8—40 mm. AA.
Machinery:	Diesels. Speed=22 kts.
Complement:	100

Notes
Four ordered in Ja n. 1958 from Schlieker Werft, Hamburg (formerly Ottenser Eisenwerke, Hamburg), one fromBlohm & Voss, Hamburg, one from Elsflether Werft, one from Lürssen, Bremen-Vegesack, and one from Norderwerft, Hamburg. Rated as *Belgeitschiffe* tenders for minesweepers and motor torpedo boats.



EIDER 1960, *Werner Schiefer*

2 Ex-British "Isles" Type Trawler Minesweepers

EIDER (ex-*Catherine*) NATO *Pennant No.*: A 50
TRAVE (ex-*Cornelia*) NATO *Pennant No.*: A 51

Displacement:	480 tons *standard* (750 tons *full load*)
Dimensions:	164 (*pp*), 177½ (*o.a.*) × 27½ × 14 feet
Guns:	*Eider*: 3—20 mm. AA. *Trave*: 1—40 mm. AA., 1—20 mm. AA.
Machinery:	*Eider*: Triple Expansion, 1 shaft. I.H.P.: 750=12 kts. *Trave*: Mercedes-Benz diesels 1 shaft. B.H.P.: 900=12 kts.
Fuel:	*Trave*: 153 tons, *Eider*: 130 tons.
Complement:	45

Notes
Former British "Isles" type minesweepers (trawlers). Built in Canada. *Trave* converted from steam (triple expansion) to diesel propulsion. Both commissioned on 2 July 1956. Formerly employed as training ships at the re-opened Naval Academy at Flensburg-Mürwik. Photograph of *Trave* in the 1957-58 to 1959-60 editions. Formerly rated as *Begleitschiffe*, but re-rated as tenders in 1960 and now employed as Cadet Training Ships at Kiel.



EMS 1960, *Werner Schiefer*

EMS (ex-U.S.N. 104, ex-*Harle*, ex-*Hunte*) NATO *Pennant No.*: A 53

Measurement:	660 tons *gross*
Dimensions:	185⅔ (*o.a.*) × 29 × 15½ feet
Guns:	4—20 mm.
Machinery:	Sulzer diesels. B.H.P.: 1,000=12 kts.
Complement:	13

Notes
Built in 1941 by Kremer & Sohn, Elmshom. Originally a sister ship to *Gauss* and *Meerkatze* and formerly a water carrier. Commissioned on 11 Dec. 1956.

OSTE (ex-U.S.N. 101, ex-*Puddefjord*) NATO *Pennant No.*: A 52

Measurement:	567 tons *gross*
Dimensions:	160 × 29⅔ × 17 feet
Guns:	2—20 mm. AA.
Machinery:	1 diesel. 1 shaft. B.H.P.: 1,000=12 kts.

Notes
Built in 1943 at Akers Mekaniske Vaerkstad, Oslo. Both above, officially described as escort vessels (tenders). Taken over from U.S. Navy. Both are tenders (*Beleitschgiffe*) of the *Schnelle Minensuchgeschwader* consisting of R boats.

WIELAND

Displacement:	130 tons
Dimensions:	121½ × 19⅔ × 5 feet

Notes
Repair ship of the former German Navy. Commissioned on 10 Aug. 1956. Rated as *schwimmwerkstattchiff* (floating workshop) NATO *Pennant No.*: Y 804.

DIVING VESSEL

METEOR II

Notes
Purchased in 1958. Employed as training ship to the submarine weapons school.

OILERS

4 New Construction Medium Type

Displacement: 4,500 tons

Notes
Projected under the new construction programme. To be ordered in the near future.

9 New Construction Small Type

Displacement: 1,200 tons

Notes
Planned in the new construction programme. To be laid down shortly.

FRANKENLAND (ex-*Münsterland*, ex-*Powell*)

Displacement:	16,310 tons
Measurement:	11,700 tons *gross*
Dimensions:	521¾ × 70¼ × 37½ feet
Machinery:	Diesels. B.H.P.: 5,800=13·5 kts.

Notes
Built by Lithgows, Glasgow. Launched in 1950. Commissioned on 29 Apr. 1959. Pennant No.: A 57.

JEVERLAND (ex-*Ammerland*, ex-*Kongsdal*)

Displacement:	14,890 tons
Measurement:	9,949 tons *gross*
Dimensions:	492½ × 66 × 36½ feet
Machinery:	Diesels. B.H.P.: 4,100=12 kts.

Notes
Built by Vulkan, Bremen. Launched in 1937. Commissioned on 29 Apr. 1959. Pennant No.: A 56.

BORKUM (ex-U.S.N. 105, ex-*Bombay*, ex-*Bodden*)

Displacement:	450 tons
Measurement:	265 tons *gross*
Dimensions:	124⅜ × 26½ × 12 feet
Machinery:	Diesels. Speed=6 kts.

Notes
Built by Flender, Lübeck. Launched in 1939. Former German motor tanker. Commissioned on 1 Nov. 1956. Pennant No.: A 54.

EUTIN (ex-*Ramsöy*)

Displacement:	410 tons
Machinery:	Speed=6 kts.

Notes
Small oiler. Built by Menzer, Geesthacht. Launched in 1943. Commissioned on 1 July 1956. Pennant No.: A 55.

BODENSEE (ex-*Unkas*) **WITTENSEE** (ex-*Sioux*)

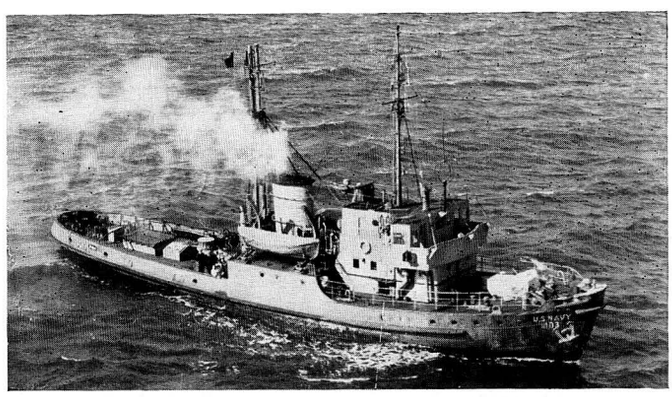
Displacement:	1,200 tons
Measurement:	1,230 tons *deadweight*, 980 tons *gross*
Dimensions:	208½ × 32½ × 15 feet
Machinery:	Diesels. B.H.P.: 1050—1,250=12 kts.

Notes
Built by P. Lindenan, Kiel-Friedrichsort. Launched in 1956 and on 23 Sep. 1958, respectively. Commissioned on 26 Mar. 1959. These ships are nearly identical.

FISHERY PROTECTION VESSELS

Notes
Fishery Protection Vessels include *Poseidon*, *Anton Dohrn*, *Meerkatze*, *Frithjof* and *Uthorn* (full particulars and photographs of which appear in the 1959-60 and earlier editions), but all these belong to the Federal Ministry for Agriculture and Fisheries and were officially stricken from the Navy List in 1960.

TUGS



PASSAT *Added 1957, U.S. Navy, Official*

PASSAT (ex-U.S.N. 103

Displacement:	460 tons
Dimensions:	118 × 26¼ × 13 feet
Machinery:	Diesels. B.H.P.: 650=11 kts.

Notes
Built at Deutsche Werke, Kiel. Launched in 1936. NATO Pennant No.: Y 800. Commissioned on 30 Nov. 1956.

PELLWORM (ex-USN 102)

Displacement:	500 tons
Measurement:	276 tons *gross*
Dimensions:	127 × 28 × 11⅔ feet
Machinery:	1 diesel. 1 shaft. B.H.P.: 800=12 kts.

Notes
Pellworm was built in 1939 at Schichau, Königsberg. NATO Pennant No.: Y 801. Commissioned on 1 Nov. 1956.

PLÖN

Measurement:	101 tons *gross*
Machinery:	H.P.: 350

Notes
Tug for Kiel purchased in 1956. Pennant No.: Y 802.

KNECHTSAND Y 814 (22 Dec. 1958)
LANGENESS Y 819 (29 Apr. 1959)
LÜTJE HÖRN Y 812 (1 Oct. 1958)
MELLUM Y 813 (10 Nov. 1958)
NORDSTRAND Y 817 (25 Feb. 1959)
SCHARHÖRN Y 815 (2 Jan. 1959)
TRISCHEN Y 818 (7 Apr. 1959)
VOGELSAQAND Y816 (26 Jan. 1959)

Notes
Small harbour tugs of the "Lutje Horn" type. Commissioning dates and pennant numbers against names above.

ROYAL HELLENIC NAVY

Administration

Chief of General Naval Staff:
Rear-Admiral G. Panayotopoulos, R.H.N.

Commander in Chief of the Fleet:
Rear Admiral Georgios Bakas, R.H.N.

Naval Attaché in London:
Captain E. G. Panas, R.H.N.

Personnel

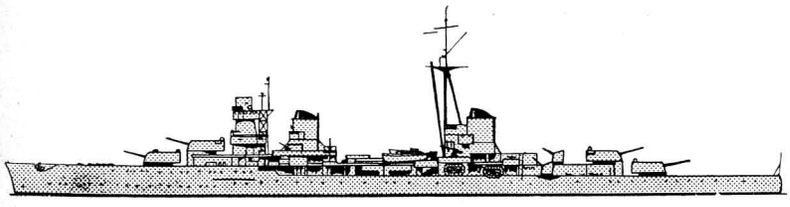
1960: 15,000 officers and men
(conscript, 18 months or enlistment)

Mercantile Marine

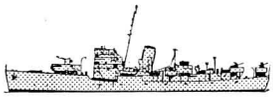
Lloyd's Register of Shipping
489 vessels of 2,150,938 tons *gross*

Silhouettes

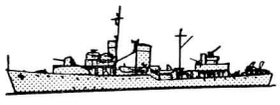
Scale: 150 ft.=1 inch



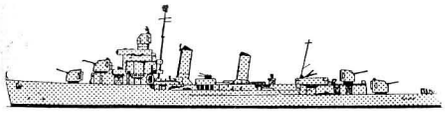
ELLI



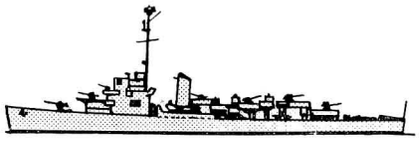
APOSTOLIS



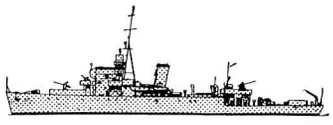
TOMPAZIS



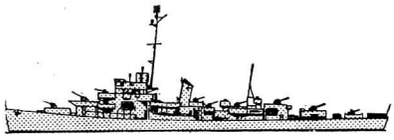
DOXA, NIKI



AETOS



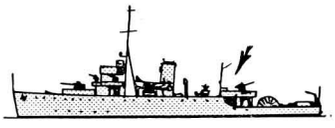
ARMATOLOS



PANTHIR

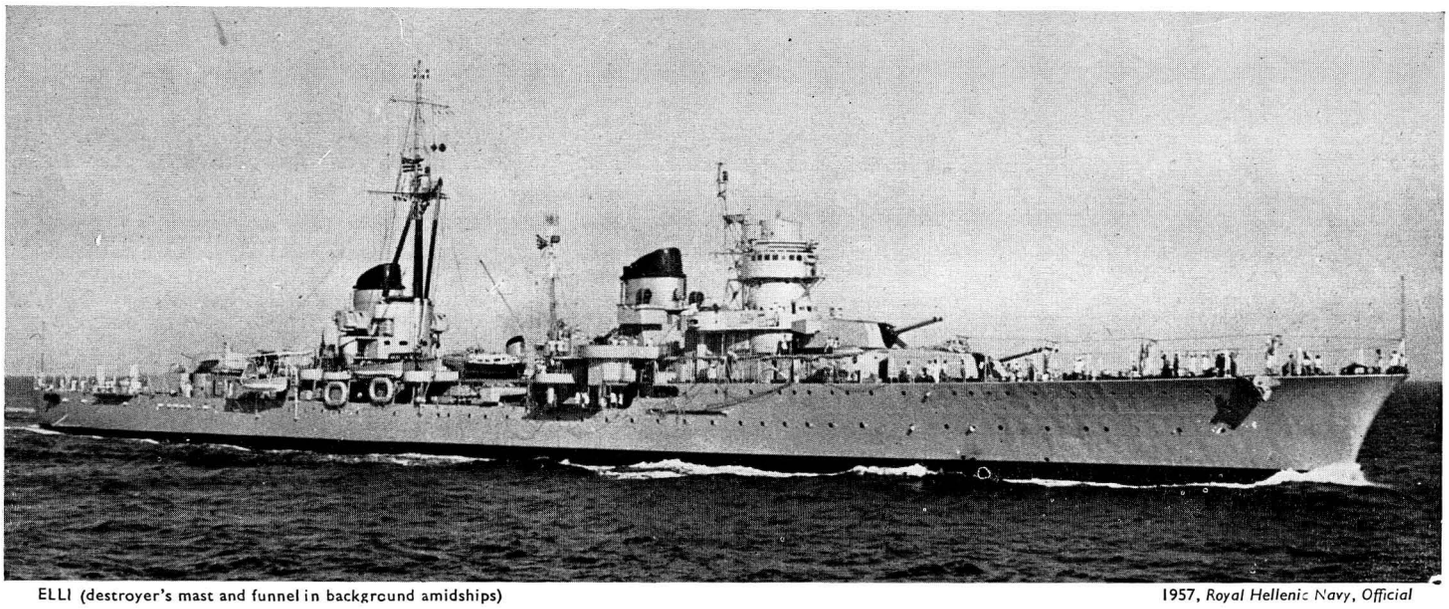


ADRIAS *Class*



POLEMISTIS *Class*

CRUISER

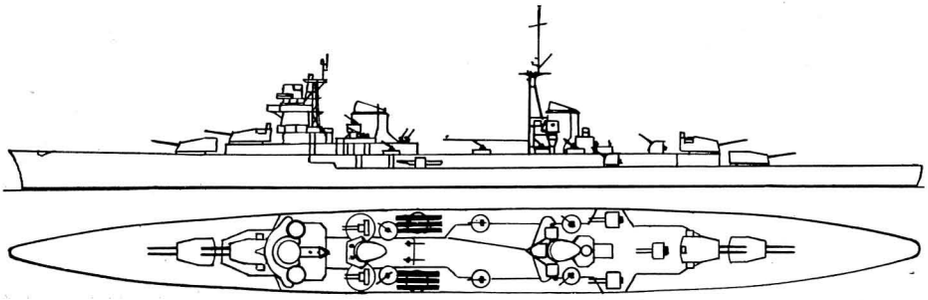


ELLI (destroyer's mast and funnel in background amidships) 1957, *Royal Hellenic Navy, Official*

1 Ex-Italian Type

ELLI (ex-*Eugenio di Savoia*)

Pennant No.:	C. 94
Builders:	Ansaldo
Laid down:	Jan. 1932
Launched:	16 Mar. 1935
Completed:	Jan. 1936
Displacement:	8,856 tons *standard* (10,835 tons *full load*)
Dimensions:	Length: 592 (*w.l.*), 610½ (*o.a.*) feet. Beam: 57½ feet. Draught: 16½ feet
Guns:	3—6 inch, 53 cal., 6—3·9 inch, 47 cal. AA., 8—37 mm. AA., 12—20 mm. AA., 2 M.G.
Torpedo tubes:	6—21 inch (tripled)
A/S weapons:	2 D.C.T.
Mines:	100 (see notes)
Armour:	4″-1½″ Vert. side, 1½″. Deck, 4″ Turrets, 3″ Barbettes, 4″ C.T.
Machinery:	Belluzzo geared turbines. 2 shafts. S.H.P.: 110,000=36·5 kts.
Boilers:	6 Yarrow, of 3-drum type
Oil fuel:	1,731 tons
Radius:	3,670 miles at 20 kts.
Complement:	551



Notes

Former Italian light cruiser with an originally designed displacement of 7,283 tons. This ship was assigned to Greece by the Italian Peace Treaty, turned over to Greece in July 1950, and was refitted by Cantieri Navali de Taranto before being delivered on 2 July 1951. She is an enlarged edition of the Italian *Montecuccoli*. Reported to be very lightly constructed. Equipped for minelaying, and can carry 66 to 112 mines, according to size and type.

Note to Drawing:

Port elevation and plan. Scale: 128 feet=1 inch.

Photograph Notes

^ port broadside view appears in the 1956-57 to 1959-60 editions.

DESTROYERS

4 Ex-U.S. DD Type
"Fletcher" Class

ASPIS (ex-U.S.S. *Conner*, *DD* 582)

LONCHI (ex-U.S.S. *Hall*, *DD* 583)

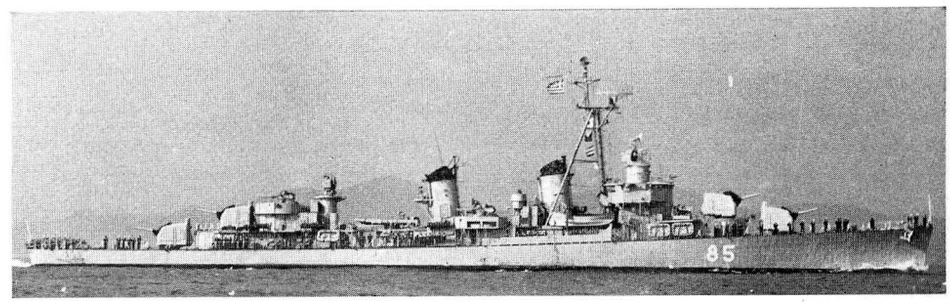
SFENDONI (ex-U.S.S. *Aulick*, *DD* 569)

VELOS (ex-U.S.S. *Charette*, *DD* 581)

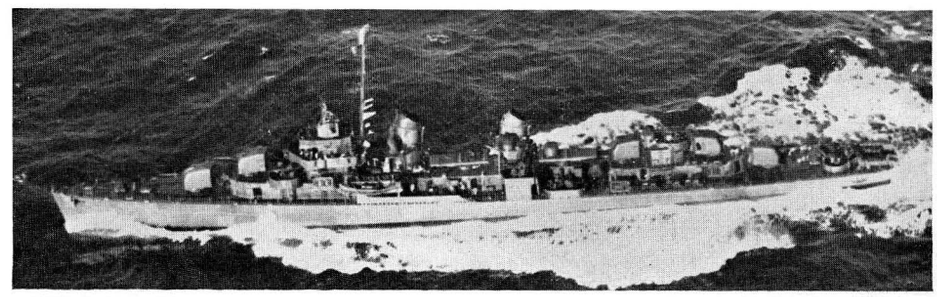
Displacement:	2,100 tons *standard* (2,750 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal. d.p.; 6—3 inch, 50 cal. AA. (three twin)
Tubes:	5—21 inch (quintuple bank)
A/S weapons:	6 depth charge throwers
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300

Name	*Laid down*	*Launched*	*Completed*
Aspis	16 Apr. 1942	18 July 1942	8 June 1943
Lonchi	16 Apr. 1942	18 July 1942	6 July 1943
Sfendoni	14 May 1941	2 Mar. 1942	27 Oct. 1942
Velos	20 Feb. 1941	3 June 1942	18 May 1943

Name	*Pennant No.*	*Builders*
Aspis	D 06	Boston Navy Yard
Lonchi	D 56	Boston Navy Yard
Sfendoni	D 85	Consolidated Steel Corp., Texas
Velos	D 16	Boston Navy Yard



SFENDONI (after refit) — 1960, *Royal Hellenic Navy, Official*



ASPIS (before refit) — *Added* 1959, *U.S. Navy, Official*

Notes

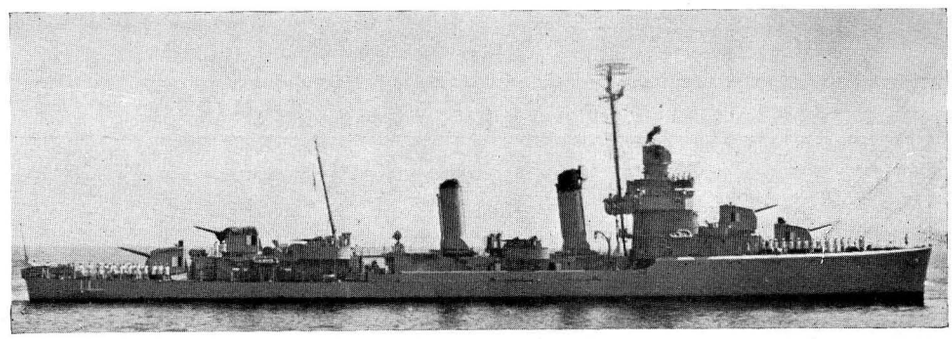
Former United States destroyers of the "Fletcher" class, transferred from the U.S.A. to Greece under the Mutual Defense Assistance Program, *Aspis*, *Lonchi* and *Velos* at Long Beach, California, on 15 Sep. 1959, 9 Feb. 1960 and 15 June 1959, respectively, and *Sfendoni* at Philadelphia on 21 Aug. 1959. *Aspis* means Shield.

2 Ex-U.S. DD Type
"Gleaves" Class

DOXA (ex-U.S.S. *Ludlow*) **NIKI** (ex-U.S.S. *Eberle*)

Name:	*Doxa*	*Niki*
Pennant No.:	20	65
NATO No.:	D 220	D 225
Builders:	Bath Iron Works Corpn.	Bath Iron Works Corpn.
Laid down:	18 Dec. 1939	12 Apr. 1939
Launched:	11 Nov. 1940	14 Sep. 1940
Completed:	5 Mar. 1941	4 Dec. 1940

Displacement:	1,630 tons *standard* (2,572 tons *full load*)
Dimensions:	348½ (*o.a.*) × 36 × 18 (*max.*) feet
Guns:	4—5 inch, 38 cal., 12—40 mm. (2 quadruple, 2 twin), 6—20 mm. AA. (2 twin, 2 single)
Torpedo tubes:	Removed
A/S weapons:	4 D.C.T.
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 50,000=34·5 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	5,000 miles at 15 kts.
Complement:	250 (*war*), 188 peace



NIKI — 1956, *A. & J. Pavia*

General Notes

Taken over from the United States Navy on 18 Apr. 1951. Formerly DD 438 and DD 430, respectively, of the "Gleaves" class destroyers.

Nomenclature Notes

Names mean "Glory" and "Victory," respectively.

Gunnery Notes

The twelve 40 mm. guns are disposed in six twin mountings, two between the funnels and four abreast the mainmast.

Torpedo Notes

The 5—21 inch torpedo tubes originally mounted in a quintuple bank were removed.

FRIGATES *(Destroyer Escorts)*

4 Ex-U.S. DE Type

AETOS (ex-U.S.S. *Slater*) **LEON** (ex-U.S.S. *Eldridge*)

IERAX (ex-U.S.S. *Ebert*) **PANTHIR** (ex-U.S.S. *Garfield Thomas*)

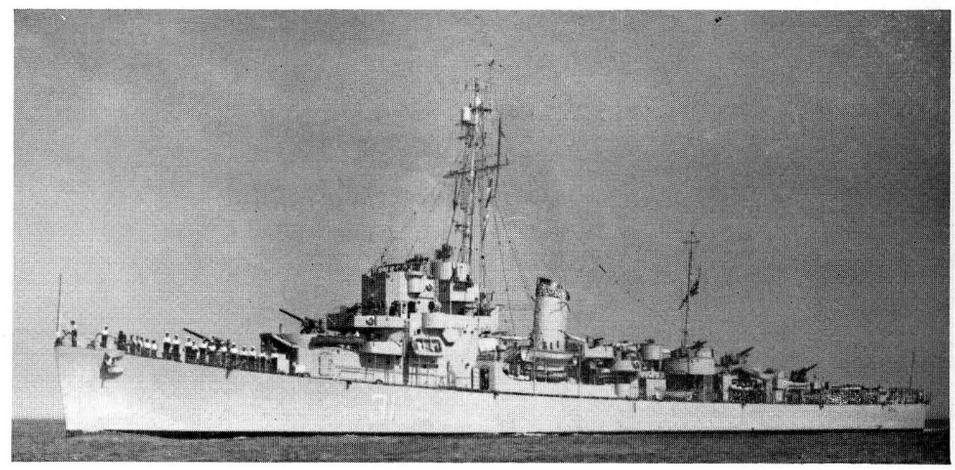
Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅝ × 12 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p., 6—40 mm., (3 twin) 18—20 mm. AA. (9 twin)
A/S weapons:	8 D.C.T.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 6,000=20 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220 (*war*)

Name	*Laid down*	*Launched*	*Completed*
Aetos	9 Mar. 1943	13 Feb. 1944	1 May 1944
Ierax	1 Apr. 1943	23 May 1944	12 July 1944
Leon	22 Feb. 1943	25 June 1943	27 Aug. 1943
Panthir	23 Sep. 1943	12 Dec. 1943	24 Jan. 1944

Pennant No.	*NATO No.*	*Name*	*Builders*
01	D 212	*Aetos*	Tampa S.B. Co.
31	D 213	*Ierax*	Tampa S.B. Co.
54	D 217	*Leon*	Federal S.B. & D.D. Co.
67	D 227	*Panthir*	Federal S.B. & D.D. Co

Notes

Former American destroyer escorts of the "Bostwick" class. Their 3—21 inch torpedo tubes (triple mount) were removed. Transferred from U.S.A. in 1951 under the Mutual Defense Assistance Program. Formerly DE 766, DE 768, DE 173 and DE 193, respectively. Meanings of names are Eagle, Falcon, Lion and Panther. *Aetos* and *Ierax* transferred 15 Mar. 1951, *Leon* and *Panthir* 15 Jan. 1951. Re-named after late destroyer flotilla in Greek Navy bearing these names.



IERAX — 1960, *Wright & Logan*

FRIGATES (*Escort Destroyers*)

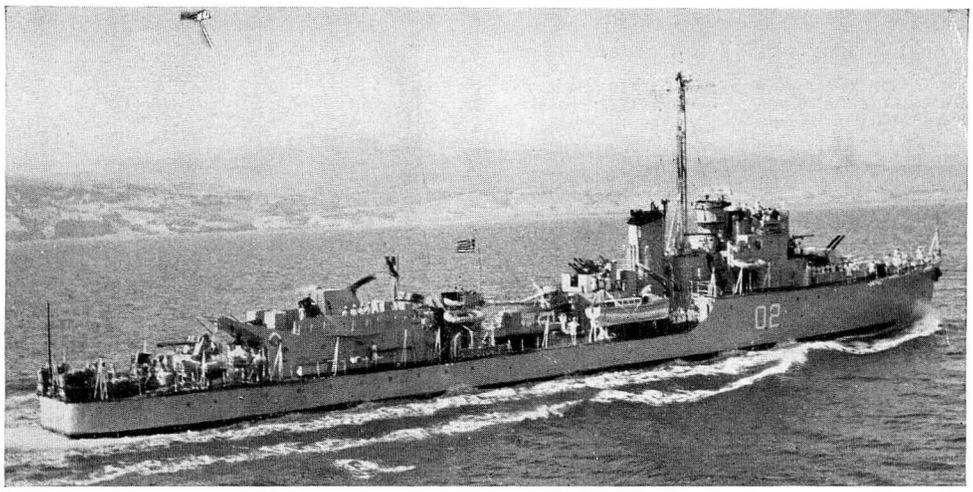
2 Ex-British "Hunt" Type III

	ADRIAS (ex-*Tanatside*)	**ASTINGS** (ex-*Catterick*)
Name:	*Adrias*	*Astings*
Pennant No.:	02	15
NATO No.:	210	215
Builders:	Yarrow & Co. Ltd., Scotstoun, Glasgow	Vickers-Armstrongs Ltd., Barrow-in-Furness
Laid down:	26 June 1941	1 Mar. 1941
Launched:	30 Apr. 1942	22 Nov. 1941
Completed:	4 Sep. 1942	12 June 1942

Displacement: 1,050 tons *standard* (1,435 tons *full load*)
Dimensions: 280 × 31½ × 7⅝ feet (*mean*)
Guns: 4—4 inch (2 twin), 1—4-barrelled 2 pdr. pompom, 3—20mm. AA. (except *Adrias*), 2—40 mm. AA. (*Adrias* only)
Tubes: 2—21 inch
A/S weapons: 4 D.C.T.
Machinery: Parsons geared turbines. S.H.P.: 19,000=29 kts. (designed), 26 kts. sea speed
Boilers: 2, of 3-drum type
Oil fuel: 265 tons
Radius: 3,500 miles at 14 kts.; 2,400 miles at 20 kts.; 1,000 miles at 26 kts.
Complement: 146

General Notes

The above two vessels, officially classed as escort destroyers, belong to the modified "Hunt" Type III class (escort destroyers later reclassified as frigates), on loan from Great Britain. Another escort destroyer of this type, *Adrias* (ex-*Border*), was scrapped owing to heavy damage received when a mine blew away her fo'c's'le on 22 Oct. 1943.



ADRIAS — 1957, *R.H.N., Official*

Recent Disposals

Sister ships *Kanaris* (ex-*Hatherleigh*) and *Pindos* (ex-*Bolebroke*) were returned to Great Britain on 12 Dec. 1959 and sold for scrap in Greece, and it was officially stated in 1960 that it is anticipated that *Miaoulis* (ex-*Modbury*) of the same class will also be returned and similarly disposed of.

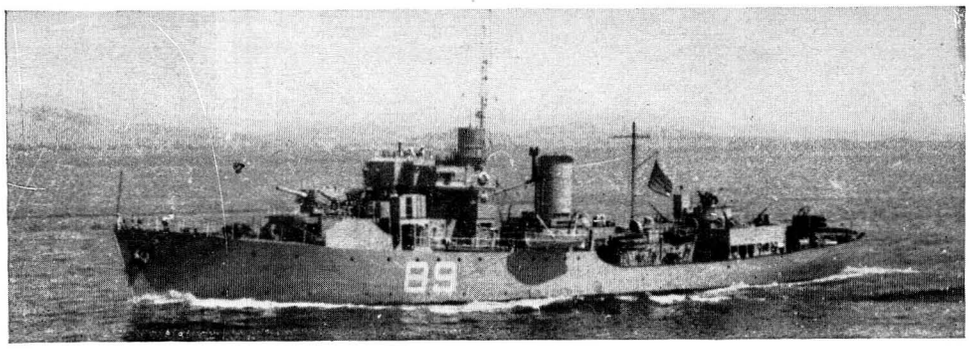
All three of the ex-British "Hunt" Type II frigates (escort destroyers), namely *Aegaion* (ex-*Lauderdale*), *Kriti* (ex-*Hursley*) and *Themistocles* (ex-*Bramham*) were also returned to Great Britain on 12 Dec. 1959 and sold for scrap in Greece.

FRIGATES (*Corvettes*)

2 Ex-British "Flower" Type

	APOSTOLIS (ex-*Hyacinth*)	**TOMBAZIS** (ex-*Tamarisk*)
Name:	*Apostolis*	*Tombazis*
Pennant No.:	28	89
NATO No.:	F 451	F 452
Builders:	Harland & Wolff, Ltd., Belfast	Fleming & Ferguson, Ltd., Paisley
Laid down:	20 Apr. 1940	10 Feb. 1941
Launched:	19 Aug. 1940	28 July 1941
Completed:	4 Oct. 1940	26 Dec. 1941

Displacement: 1,060 tons *standard* (1,250 tons *full load*)
Dimensions: 190 (*pp.*), 205 (*o.a.*) × 32 × 14½ feet
Guns: *Apostolis:* 1—3 inch, 2—2 pdr. pompom, 2—20 mm. AA. *Tombazis:* 1—4 inch, 1—2 pdr. pompom, 6—20 mm. AA
A/S weapons: 4 D.C.T.
Machinery: Triple expansion. I.H.P.: 2,750=16 kts.
Boilers: 2 S.E.
Oil fuel: 350 tons
Radius: 7,000 miles at 10 kts.
Complement: 79 to 85



TOMBAZIS — 1954, *R.H.N., Official*

Notes

Both on loan from Royal Navy since 1942-43. Small armament varies. *Apostolis* is one of the "Flower" class corvettes which were never brought home after going to the Mediterranean in 1940, and consequently she never had the forecastle extended aft nor was rearmed. *Tombazis* is of modified "Flower" type.

SUBMARINES

2 Ex-U.S. "Gato" Class

	AMFITRITI (ex-*Jack*)	**FOSEIDON** (ex-*Lapon*)
Name:	*Amfitriti*	*Poseidon*
Pennant No.:	Y 17	Y 16
Builders:	Electric Boat Div., Gen. Dynamics Corp.	Electric Boat Div., Gen. Dynamics Corp.
Laid down:	2 Feb. 1942	21 Feb. 1942
Launched:	16 Oct. 1942	27 Oct. 1942
Completed:	6 Jan. 1943	23 Jan. 1943

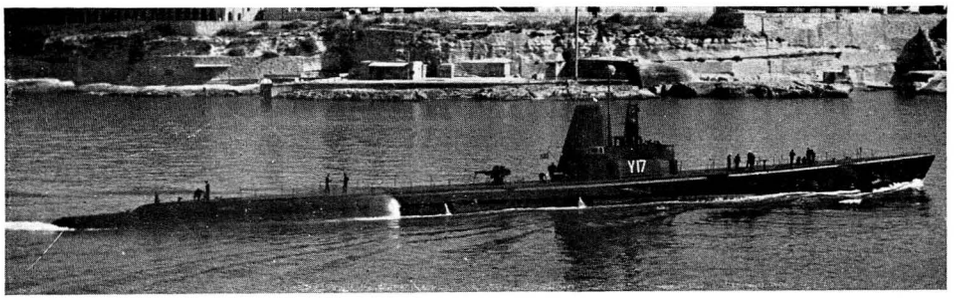
Displacement: 1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions: 311¾ × 27 × 17 feet
Guns: 1—5 inch, 25 cal., d.p.
Tubes: 10—21 inch (6 bow, 4 stern)
Machinery: G.M. 2-stroke diesels. B.H.P.: 6,500=21 kts. (*surface*). Electric motors, H.P.: 2,750=10 kts. (*submerged*)
Complement: 85

Notes

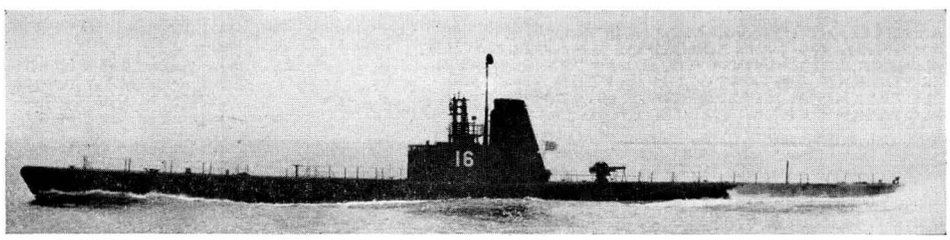
Both loaned from the United States in 1957 under the Military Aid Programme. Have two engine rooms instead of one to reduce size of compartments. *Lapon* was transferred by the United States under M.A.P. on 8 Aug. 1957 and *Jack* on 21 Apr. 1958.

Recent Disposals

Argonaftis, Y 15 (ex-H.M.S. *Virulent*) and *Triena*, Y 14 (ex-H.M.S. *Volatile*), both on loan from Great Britain since 1946, NATO Nos. S 111 and S 112, respectively, were returned to the Royal Navy in 1958. Sister ships *Delfin*, Y 9 (ex-H.M.S. *Vengeful*) and *Piplnos*, Y 8 (ex-H.M.S. *Veldt*, ex-*P 71*), which had been on loan from Great Britain since 1943, were handed back to the Royal Navy at Malta on 12 Dec. 1957.



AMFITRITI — 1959, *A. & J. Pavia*



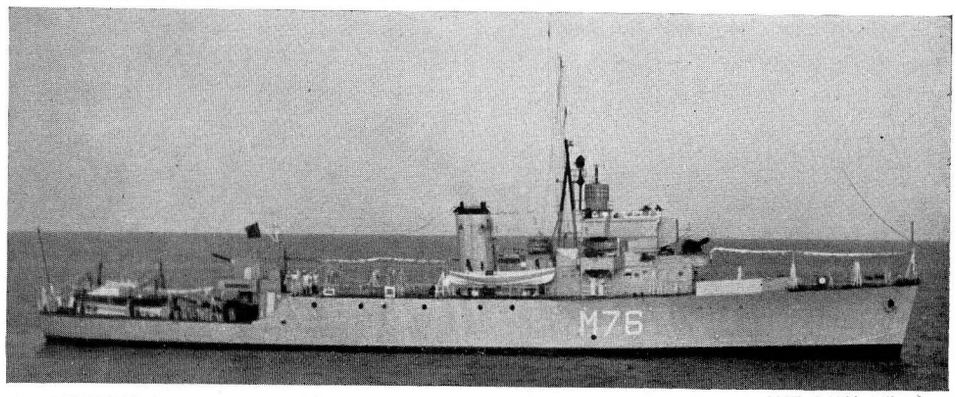
POSEIDON — 1958, *Royal Hellenic Navy, Official*

ESCORT MINESWEEPERS (*Corvettes*)

5 Ex-British "Algerine" Type Ocean Minesweepers (Officially classed as Corvettes)

ARMATOLOS (ex-*Aries*) **PIRPOLITIS** (ex-*Arcturus*)
MAHITIS (ex-*Postillion*) **POLEMISTIS** (ex-*Gozo*)
NAVMACHOS (ex-*Lightfoot*)

Displacement:	1,030 tons *standard* (1,325 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	2—3 inch (U.S. Mk. 21), 4—20 mm. AA. (U.S.), 2 Colt-Browning M.G. (except *Machitis*)
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	85

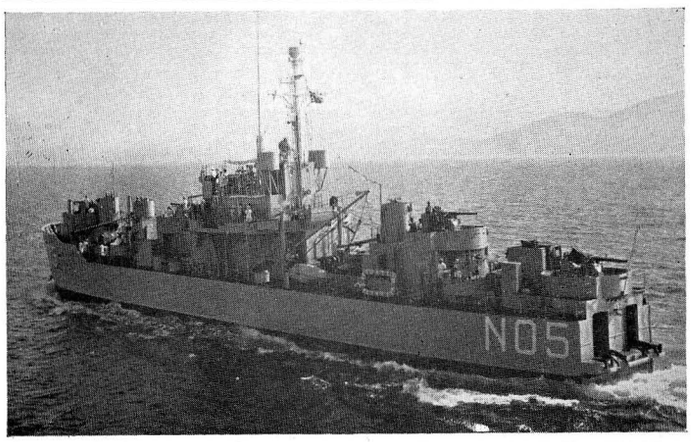


PIRPOLITIS 1957, *R.H.N. Official*

Name	*No.*	*Launched*
Armatolos	M 12	19 Sep. 1942
Mahitis	M 58	18 Mar. 1943
Navmachos	M 64	14 Nov. 1942
Pirpolitis	M 76	31 Aug. 1942
Polemistis	M 74	27 Jan. 1943

Notes
Formerly ocean minesweepers of the "Algerine" class in the Royal Navy. Acquired from the Executive Committee of Surplus Allied Material. Officially classed as corvettes. Launch dates below. Armament of *Mahitis* has been removed and she is now used as a training ship. All built by Redfern Construction Co., except *Armatolos*, by Toronto Shipyard. Pennant Nos. (1956) 12, 58, 64, 76 and 74, respectively. NATO Nos. M 12, M 58, M 64, M 76 and M 74, respectively.

MINELAYERS



AMVRAKIA 1959, *Royal Hellenic Navy, Official*

2 Ex-U.S. LSM Type

AKTION (ex-*LSM* 301) **AMVRAKIA** (ex-*LSM* 303)

Displacement:	720 tons *standard* (1,100 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7½ (8½ *max.*) feet
Guns:	8—40 mm. d.p. (4 twin mounts), 6—20 mm. AA. (single)
Mines:	Capacity 100 to 130
Machinery:	2 diesels. 2 shafts. B.H.P.: 3,600=12·5 kts.
Radius:	3,000 miles at 12 kts.
Complement:	65

Notes
Former United States Landing Ships Medium. Both built at Charleston Naval Shipyard. *Aktion* was launched on 1 Jan. 1945 and *Amvrakia* on 14 Nov. 1944. Converted in the U.S.A. into all purpose seagoing minelayers for the Royal Hellenic Navy under the terms of the Mutual Defense Assistance Program. Have undergone extensive rebuilding from the deck up. Twin rudders. The Greek flag was hoisted on 1 Dec. 1953. Pennant Nos. N 04 and N 05, respectively.

PATROL VESSELS (*Gunboats*)



ANTIPLOIARKHOS LASKOS 1955, *R.H.N., Official*

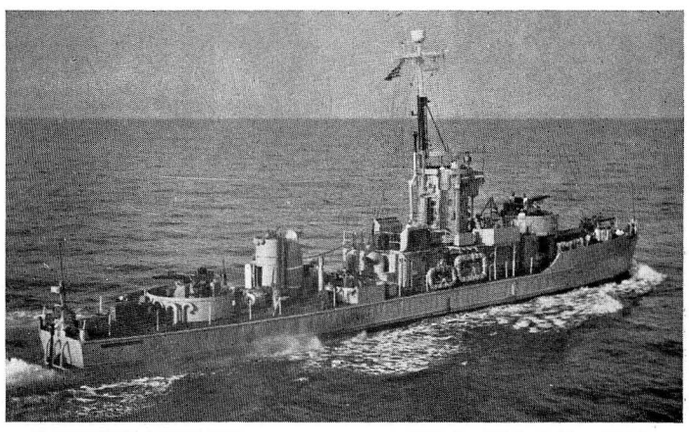
6 Ex-U.S. PGM Type

ANTIPLOIARKHOS LASKOS (ex-*PGM* 16, ex-*PC* 1148)
ANTIPLOIARKHOS PEZOPOULOS (ex-*PGM* 21, ex-*PC* 1552)
PLOIARKHOS MELETOPOULOS (ex-*PGM* 22, ex-*PC* 1553)
PLOTARKHIS ARSLANOGLOU (ex-*PGM* 25, ex-*PC* 1556)
PLOTARKHIS BLESSAS (ex-*PGM* 28, ex-*PC* 1559)
PLOTARKHIS CHANTZIKONSTANDIS (ex-*PGM* 29, ex-*PC* 1565)

Displacement:	335 tons *standard* (439 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ (*mean*, 10¾ (*max.*) feet
Guns:	1—3 inch, 2—40 mm. AA., 6—20 mm. AA.
Machinery:	2 sets G.M. 2 stroke diesels. 2 shafts. B.H.P.: 3,600=19 kts.
Oil fuel:	60 tons

Notes
All launched in 1943-44. Presented from the U.S. Navy in Aug. 1947. Rated as gunboats. Pennant Nos. P 53, P 70, P 57, P 14, P 61 and P 96, respectively.

Patrol Vessels (*Gunboats*)—*continued*



PLOTARKHIS MARIDAKIS 1959, *Royal Hellenic Navy, Official*

2 Ex-U.S. LSSL Type

PLOTARKHIS MARIDAKIS (ex-U.S.S. *LSSL* 65) 14 Nov. 1944
PLOTARKHIS VLACHAVAS (ex-U.S.S. *LSSL* 35) 17 Sep. 1944

Displacement:	257 tons *standard* (395 tons *full load*)
Dimensions:	157 × 23¼ × 5¾ feet
Guns:	1—3 inch, 4—40 mm. AA. (2 twins), 4—20 mm. AA., 6—0·5 inch AA. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600=14·4 kts.
Oil fuel:	87 tons

Notes
Former American Landing Ships Support, Large. Built by Albina Engine & Machinery Works Inc., Portland, Oreg., and Commercial Iron Works, Portland, Oreg., respectively. Launch dates above. *Plotarkhis Vlachavas* was transferred from the United States on 12 Aug. 1957 under the Military Aid Program and *Plotarkhis Maridakis* in June 1958. Employed as patrol vessels and gunboats.



VASSILEFS GEORGHIOS II 1952, *Royal Hellenic Navy, Official*

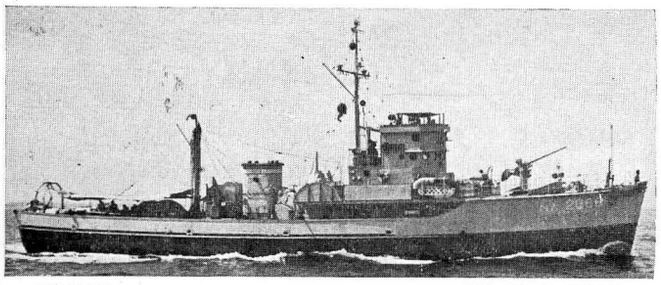
1 Ex-U.S. PC Type

VASSILEFS GEORGHIOS II (ex-*PC* 622)

Displacement:	335 tons *standard* (439 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm.
A/S weapons:	4 D.C.T.
Machinery:	2 sets G.M. 2-stroke diesels. 2 shafts. B.H.P.: 3,600=19 kts.
Oil fuel:	60 tons
Complement:	65

Notes
Built by Nashville Bridge Co. Launched in 1942. Transferred from the U.S. Navy under the Lend-Lease Act in June 1944. Rated as a gunboat. Pennant No. P 17.

COASTAL MINESWEEPERS



PARALOS 1955, *R.H.N., Official*

14 BYMS Type

AFROESSA (ex-*BYMS* 2185)
ITHAKI (ex-*BYMS* 2240)
KALYMNOS (ex-*BYMS* 2033)
KARTERIA (ex-*BYMS* 2065)
KEFALINIA (ex-*BYMS* 2171)
KERKYRA (ex-*BYMS* 2172)
LEFKAS (ex-*BYMS* 2068)
LEROS (ex-*BYMS* 2186)
PARALOS (ex-*BYMS* 2066)
PATMOS (ex-*BYMS* 2229)
PAXI (ex-*BYMS* 2056)
SALAMINIA (ex-*BYMS* 2067)
SIMI (ex-*BYMS* 2190)
ZAKYNTHOS (ex-*BYMS* 209)

Displacement: 270 tons *standard* (350 tons *full load*)
Dimensions: 136 × 24½ × 8 feet
Guns: 1—3 inch, 2—20 mm. AA., 4 M.G., 2 D.C.T.
Machinery: Diesel. B.H.P.: 1,000=12 kts.
Complement: 33

Notes
Of wooden hull construction. All the names are conventional and are not mentioned in signals or correspondence. Known by numbers. *Karteria* was launched on 21 Dec. 1942. *Vegas* (ex-*BYMS* 2078), has been adapted as a hydrographic ship, see below.

COASTAL PATROL VESSELS

8 BYMS Type Ex-Coastal Minesweepers

ANDROMEDA (ex-*BYMS* 2261)
ARIADNI (ex-*BYMS* 2058)
AURA (ex-*BYMS* 2054)
CLIO (ex-*BYMS* 2152)
LAMBADIAS (ex-*BYMS* 2182)
PIGASSOS (ex-*BYMS* 2221)
PROKYON (ex-*BYMS* 2076)
THALIA (ex-*BYMS* 2252)

Displacement: 251 tons *standard* (338 tons *full load*)
Dimensions: 136 × 24½ × 8½ (*max.*) feet
Guns: 1—20 mm. Oerlikon AA.
Machinery: 2 General Motors diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel: 16 tons
Radius: 5,500 miles at economical speed
Complement: 30

Notes
Former United States coastal minesweepers of the BYMS type acquired in 1959. Of wooden hull construction.

SURVEY SHIPS

1 BYMS Type Ex-Coastal Minesweeper

VEGAS (ex-BYMS 2078)

Displacement: 252 tons *standard* (325 tons *full load*)
Dimensions: 136 × 24½ × 6 feet
Machinery: Diesel. B.H.P.: 1,000=12 kts.

Notes
Former coastal minesweeper of the wooden hulled BYMS type, see sister ships above.

ALKYONI

Displacement: 213 tons

MOTOR LAUNCHES



ELEPHTHERON 1953, *A. & J. Pavia*

2 Fairmile B Type

KALAMBAKA (ex-*ML* 483) **NISSIROS** (ex-*ML* 864)

Displacement: 75 tons *standard* (130 tons *full load*)
Dimensions: 112 × 18 × 9 feet
Guns: 1—40 mm. AA., 2—20 mm. AA., 4 M.G.
Machinery: 2 Hall Scott motors. B.H.P.: 1,200=18 kts.

Notes
Fairmile "B" type. Both on loan from Great Britain. *Nissiros* is used as the Royal Barge.

Recent Disposals
The sister launches *Doxaton* (ex-*ML* 307), *Drama* (ex-*ML* 341), *Elephtheron* (ex-*Kalini*, ex-*ML* 478), *Chalkis* (ex-*ML* 578), *Kapernissi* (ex-*ML* 867) and *Tsataltza* (ex-*ML* 861) were returned to Great Britain, it was officially stated in 1960, and are being scrapped or sold.

SEAWARD DEFENCE BOATS



KARIA 1957, *R.H.N., Official*

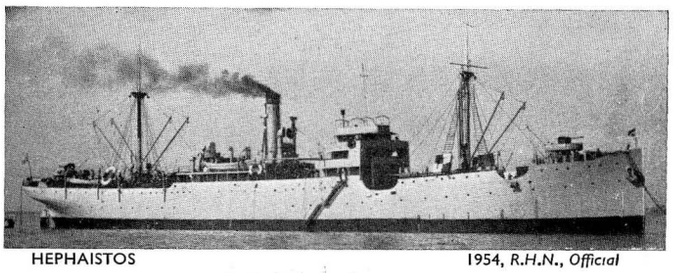
8 HDML Type

BIZANI (ex-*HDML* 1221)
DAVLIA (ex-*HDML* 1032)
DISTRATON (ex-*HDML* 1292)
FARSALA (ex-*HDML* 1252)
KARIA (ex-*HDML* 1307)
KASTRAKI (ex-*HDML* 1375)
KLISSOURA (ex-*HDML* 1149)
PORTARIA (ex-*HDML* 1051)

Displacement: 46 tons *standard* (54 tons *full load*)
Dimensions: 72 (*o.a.*) × 15½ × 4½ feet (*mean*)
Guns: 1—40 mm., 1—20 mm. AA.
Machinery: Diesel. B.H.P.: 300=10 kts.

Notes
Former Royal Navy harbour defence motor launches. All on loan from Great Britain.

REPAIR SHIP



HEPHAISTOS 1954, *R.H.N., Official*

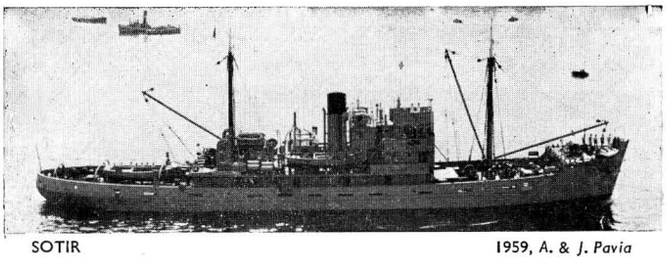
1 Ex-German Type

HEPHAISTOS (ex-*Khios*, ex-*Marie Reppel*)

Displacement: 3,800 tons *standard* (4,550 tons *full load*)
Measurement: 9,300 tons *gross*
Dimensions: 360½ × 50 × 23 feet
Guns: 2—3 inch AA., 4—20 mm.
Machinery: Triple expansion. I.H.P.: 1,800=11.5 kts.

Notes
Former German cargo ship. Built at Rostock. Launched in 1920. Converted into a Repair Ship in 1925. *Hephaistos* was the patron god of the metal workers.

OCEAN SALVAGE VESSEL



SOTIR 1959, *A. & J. Pavia*

1 British "Sal" Type

SOTIR (ex-*Salventure*)

Displacement: 1,440 tons *standard* (1,700 tons *full load*)
Measurement: 1,112 tons *gross*
Dimensions: 216 (*o.a.*) × 37½ × 13 (*max.*) feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 1,500=12 kts.
Oil fuel: 310 tons
Complement: 60

Notes
Royal Fleet Auxiliary ocean salvage vessel. On loan from Great Britain.

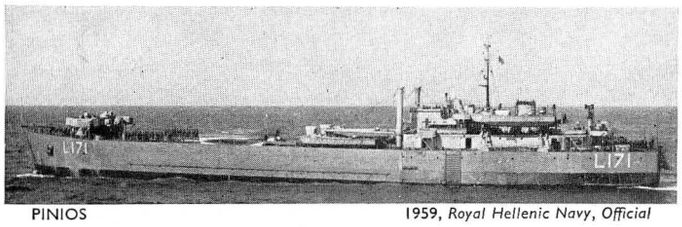
AIR-SEA RESCUE BOATS

5 Ex-U.S. AVR Type

ADAMIDIS A/N 705 (ex-*AVR* 705)
IOS A/N 1084 (ex-*AVR* 1084)
IRA A/N 709 (ex-*AVR* 709)
KARNAVIAS A/N 707 (ex-*AVR* 707)
SAKELLARIOU A/N 708 (ex-*AVR* 708)

Displacement: 24 tons
Dimensions: 63 × 15 × 3½ feet
Machinery: 2 Hall Scott motors. B.H.P.: 1,260=33 kts.

TANK LANDING SHIPS



PINIOS — 1959, *Royal Hellenic Navy, Official*

6 British LST (3) Type

ACHELOOS (ex-*LST* 3503)
ALFIOS (ex-*LST* 3020)
ALIAKMON (ex-*LST* 3002)
AXIOS (ex-*LST* 3007)
PINIOS (ex-*LST* 3506)
STRYMON (ex-*LST* 3502)

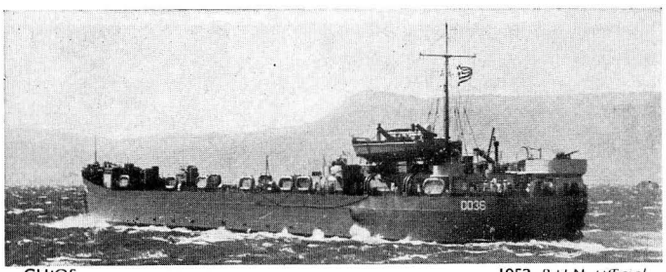
Displacement:	2,256 tons *standard* (4,980 tons *full load*)
Dimensions:	330 (*w.l.*), 347 (*o.a.*) × 55 × 14½ (*max.*) feet
Guns:	10—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500 = 13 kts.
Oil fuel:	1,950 tons

Notes
Original LST (3) type landing ships. All launched in 1943. On loan from Great Britain.

3 Ex-U.S LST Type

Displacement:	1,653 tons *standard*, 2,366 *beaching*, 3,960 *trials* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 11·6 kts.
Cargo capacity:	2,100 tons
Complement:	119 (accommodation for 266)

Notes
It was officially stated in 1960 that the acquisition of three LSTs was anticipated.



CHIOS — 1952, *R.H.N. Official*

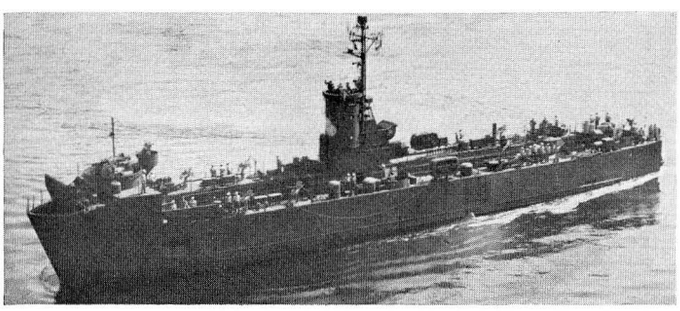
3 U.S. LST (2) Type

CHIOS (ex-*LST* 35) **LIMNOS** (ex-*LST* 36) **SAMOS** (ex-*LST* 33)

Displacement:	1,625 tons, *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	1—3 inch, 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.
Oil fuel:	595 tons
Complement:	119

Notes
All launched in 1943. Acquired from the U.S. Navy in 1943, on Lend-Lease terms. *Lesvos* (ex-*LST* 322) was returned to the British Government in 1953.

MEDIUM LANDING SHIPS



LSM — *United States Navy, Official*

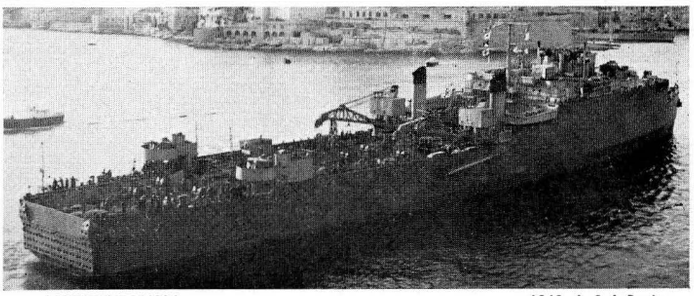
6 Ex-U.S. LSM Type

IPOPLIARKHOS CRYSTALLIOIS (ex-U.S.S. *LSM* 541)
IPOPLIARKHOS DANIOLOS (ex-U.S.S. *LSM* 227)
IPOPLIARKHOS GRIGOROPOULOS (ex-U.S.S. *LSM* 45)
IPOPLIARKHOS MERLIN (ex-U.S.S. *LSM* 557)
IPOPLIARKHOS ROUSSEN (ex-U.S.S. *LSM* 399)
IPOPLIARKHOS TOURNAS (ex-U.S.S. *LSM* 102)

Displacement:	743 tons (*beaching*), (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA., 8—20 mm. AA.
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 3,600 = 13 kts.

Notes
Former United States Medium Landing Ships of the LSM type. *LSM* 541 and *LSM* 557 were handed over to the Royal Hellenic Navy at Salamis on 30 Oct. 1958. *LSM* 45, *LSM* 102, *LSM* 227 and *LSM* 399 were transferred to Greece at Portsmouth, Virginia, on 3 Nov. 1958. All were renamed after naval heroes killed during the Second World War.

DOCK LANDING SHIP



NAFKRATOUSSA — 1960, *A. & J. Pavia*

1 Ex-U.S. LSD Type

NAFKRATOUSSA (ex-*Hyperion*, ex-*LSD* 9)

Displacement:	4,790 tons *standard* (9,375 tons *full load*)
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72½ × 18 (*max.*) feet
Machinery:	Geared turbines. 2 shafts. S.H.P.: 7,000 = 15 kts.

Notes
Launched by Newport News Shipbuilding & Dry Dock Co. on 21 May 1943. Taken over by Royal Hellenic Navy in 1953. Headquarters ship of Captain Landing Forces.

TANK LANDING CRAFT

8 LCT Type

AMORGOS (ex-*LCT* 1301)
ANAFI (ex-*LCT* 1293)
KANDANOS (ex-*LCT* 587)
KYTHIRA (ex-*LCT* 1198)
MILOS (ex-*LCT* 1300)
SERIFOS (ex-*LCT* 1227)
SOFADES (ex-*LCT* 594)
THIRA (ex-*LCT* 1297)

Displacement:	146 tons *standard* (320 to 400 tons *full load*)
Dimensions:	120 × 33 × 3¾ feet
Machinery:	Diesel. 2 shafts. S.H.P.: 675 = 8 kts.
Guns:	2—20 mm. AA.
Complement:	12

Notes
U.S. LCT (6) type. All launched in 1943-44. On loan from Great Britain, except *Serifos*.

UTILITY LANDING CRAFT

2 Ex-U.S. LCU Type

SCIATHOS (ex-U.S.S. *LCU* 853) **SCOPELOS** (ex-U.S.S. *LCU* 827)

Displacement:	143 tons *standard* (309 tons *full load*)
Dimensions:	105 (*w.l.*), 119 (*o.a.*) × 32⅜ × 5 (*max.*) feet
Guns:	2—20 mm. Oerlikon AA.
Machinery:	Diesel. 3 shafts. B.H.P.: 440 = 8 kts.
Complement:	13

Notes
Former United States Utility Landing Craft of the *LCU* (ex-*LCT*(6)) type, acquired in 1959

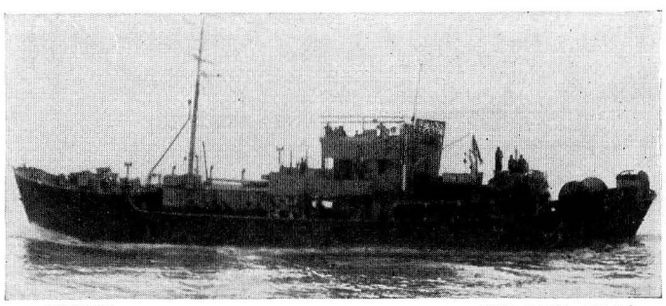
MINOR LANDING CRAFT

12 LCMs **14 LCVPs**

Notes
The above LCMs and LCVPs were transferred from the United States under the Military Aid Program.

Recent Disposals
The nine Assault Landing Craft, LCA 1123, 1352, 1525, 1618, 1725, 1726, 1775, 1818 and 1886, on loan from Great Britain from 1950 to 1959, have been returned or otherwise disposed of.

MINESWEEPING DEPOT SHIP



HERMES — 1953, *R.H.N., Official*

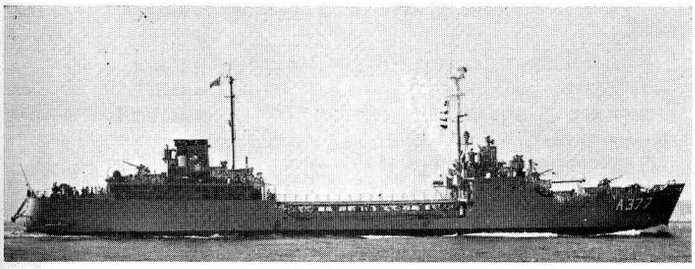
1 British Trawler Type

MES (ex-*Product*, ex-*Port Jackson*)

Displacement:	550 tons *standard* (650 tons *full load*)
Dimensions:	133 × 27¾ × 11 feet
Machinery:	Diesel, 4-stroke. B.H.P.: 560 = 11 kts.

Notes
Depot ship for minesweepers. Launched in 1941. On loan from Great Britain.

OILERS



ARETHOUSA — 1960, *Royal Hellenic Navy, Official*

1 Ex-U.S. AOG Type

ARETHOUSA (ex-U.S.S. *Natchaug*, AOG 54)

Displacement:	1,850 tons *light* (4,335 tons *full load*)
Measurement:	2,575 *deadweight* (cargo capacity 2,040 tons)
Dimensions:	292 (*w.l.*), 310¾ (*o.a.*) × 48½ × 15⅝ (*max.*) feet
Guns:	4—3 inch d.p., 50 cal.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 3,300=14 kts.
Complement:	43 (6 officers, 37 men)

Notes
Former American petrol carrier. Built by Cargill Inc., Savage, Minn. Laid down on 15 Aug. 1944. Launched on 6 Dec. 1944. Transferred from the U.S.A. to Greece under the Mutual Defense Assistance Program at Pearl Harbour, Hawaii, in July 1959. Pennant No. A 377.

1 Ex-British "War" Class

ARGO (ex-*Solna*, ex-*Granlund*, ex-*Corbis*, ex-*War Ranee*)

Displacement:	11,715 tons
Measurement:	8,350 tons *gross* (cargo capacity 7,310 tons)
Dimensions:	400 × 52¼ × 25½ feet
Machinery:	Triple expansion. I.H.P.: 3,000=10 kts.
Boilers:	3 cylindrical
Oil fuel:	2,200 tons

Notes
Built by Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne. Launched in 1918. Photograph in the 1949-50 to 1957-58 editions.

ZEUS (ex-*YOG* 98)

Launched:	1944
Capacity:	900 tons
Dimensions:	165 × 35 × 10 feet

SIRIOS (ex-*Poseidon*, ex-*Empire Faun*)

Capacity:	850 tons

Notes
On loan from Great Britain. This ship was renamed *Sirios* when the name *Poseidon* was given to the submarine *Lapon* acquired from the U.S.A. in 1958 (see earlier page).

PROMETHEUS

Launched:	1939
Capacity:	520 tons

KRONOS (ex-*Islay*, ex-*Dresden*)

Displacement:	311 tons
Capacity:	110 tons

ORION (ex-U.S. tanker Y 126)

Capacity:	700 tons

Notes
Khalki and *Xanthi* were officially stricken from the list in 1958.

NET TENDER

THETIS

Displacement:	560 tons *standard* (805 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 10½ (*mean*), 11¾ (*max.*) feet
Guns:	1—3 inch AA., some M.G.
Machinery:	Diesel-electric. B.H.P.: 800=13 kts.
Complement:	48

Notes
It was officially stated in 1960 that this ship had been taken over by the Royal Hellenic Navy.

TRANSPORTS

ANCHIALOS (ex-*FT* 28, ex-*APC* 65)
DISTOMON (ex-*FT* 15, ex-*APC* 66)
ELASSON ex-*FT* 12, ex-*APC* 67)
KALAVRITA (ex-*FT* 13, ex-*APC* 71)
LEHOVON (ex-*FT* 24, ex-*APC* 73)
VELESTINON (ex-*FT* 11, ex-*APC* 75)

Displacement:	165 tons *standard* (229 tons *full load*)
Dimensions:	103 × 21½ × 8¼ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 500=10 kts.

Notes
Former American small coastal transports. All built in 1943. Photograph of *Anchialos* in the 1956-57 and 1957-58 editions.

WATER CARRIERS

VIVIIS
Capacity: 690 tons

KASTORIA
Capacity: 520 tons

VOLVI
Capacity: 480 tons

TRIKHONIS
Capacity: 300 tons

KALIRROE **KASTALIA** **STYMPHALIA** **VLIK**
Capacity: All 120 tons

LIGHTHOUSE TENDERS

ST. LYKOUDIS (ex-*Chania*)
Displacement: 1,020 tons

SERRAI (ex-*Anna Raeder*)
Displacement: 725 tons

SKYROS

FLEET TUGS

ACCHILEUS (ex-*Confident*)
AIAS
ANTAIOS (ex-*Busy*)
ATLAS (ex-*F* 5)
CYCLOPS (ex-*F* 10)
HERAKLIS
KENTRAVROS
PERSEUS (ex-*ST* 772)
SAMSON (ex-*F* 16)
THESEUS (ex-*ST* 539)
TITAN

GUATEMALA

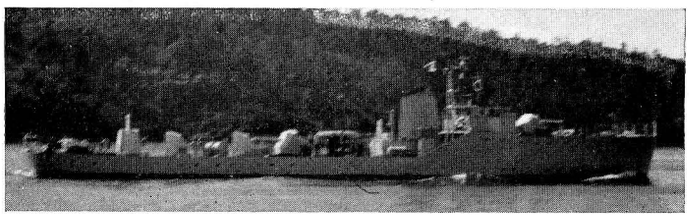
On 5 Jan. 1959 Guatemala announced that it was establishing a navy, with a primary duty to rout poaching fishing boats and smugglers. Three warships were being ordered ; and a small frigate was to be obtained from a Scandinavian country, plus small coast guard craft from the United States.

PATROL VESSEL

JOSÉ FRANCISCO BARRUNDIA (ex-*Snapphanen*)

Displacement:	310 tons *standard* (370 tons *full load*)
Dimensions:	170⅔ × 19⅔ × 96 feet
Guns:	2—3 inch; 2—25 mm. AA.
Machinery:	De Laval geared turbines. 2 shafts. S.H.P.: 3,600=23 kts.
Boilers:	2 Vancon-Normand
Oil fuel:	50 tons
Complement:	40

Notes
Built by Karlskrona Dockyard. Launched on 2 Nov. 1933. Formerly a minesweeper which served in the Royal Swedish Navy until 1959 when she was transferred to the new Guatemalan Navy as the first warship. Now has lower mast (lattice), bridge and funnel (squat, thicker and streamlined) and shields on her 12-pounder guns. One of the 25 mm. Bofors has been moved aft. She is painted a very light grey, nearly white.



JOSÉ FRANCISCO BURRUNDIA — 1959, *Official*

HAITI

Administration

Commandant of The Haitian Coast Guard: Lt. Robert Bazile

Personnel

1960: 300 officers, petty officers and ratings

COAST GUARD PATROL VESSELS

LA CRETE A PIERROT (ex-U.S.C.G. 95315) **VERTIERES**

Displacement:	100 tons
Dimensions:	95 × 19 × 5 feet
Guns:	3—20 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 2,200=21 kts.
Radius:	1,500 miles
Complement:	15

Notes

Former United States Coast Guard cutters, steel type. Built at U.S. Coast Guard Yard, Curtiss Bay, Maryland. *La Crete a Pierrot* was acquired on 26 Feb. 1956. *Vertieres* was transferred to Haiti at Norfolk, Virginia, in Oct. 1956 and commissioned in Dec. 1956. Pennant Nos. GC 8 and GC 9, respectively.



AMIRAL KILLICK *Added* **1957**, *U.S.C.G. Official*

AMIRAL KILLICK (ex-U.S.N. *Black Rock*, *WAGL* 367)

Displacement:	160 tons
Dimensions:	Length 114 feet

Notes

Former small buoy tender purchased from the United States Coast Guard in 1955, commissioned in Jan. 1956. Pennant No. GC 7

Coast Guard Patrol Vessels—*continued*

TOUSSAINT L'OUVERTURE (ex-*SC* 1064) **16 AOUT 1946** (ex-*SC* 453)

Displacement:	110 tons *standard* (138 tons *full load*)
Dimensions:	110½ × 18¾ × 6½ feet
Guns:	2—40 mm., 2—20 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,000=15 kts.

Notes

Pennant Nos. GC 3 and GC 2, respectively. Submarine chasers of the SC type acquired during 1947 from the U.S. Navy. Launched in 1941-43. Laid up in reserve in poor condition and will probably be sold or scrapped. *Amiral Killick*, GC4, was discarded in 1954.

Nos. 1, 2, 3, 4, 5, 6

Displacement:	45 tons
Dimensions:	82 × 16 × 4½ feet
Guns:	1—20 mm.
Speed:	20·5 kts.

Notes

Patrol craft of picket-boat type acquired from the U.S. Coast Guard. Launched in 1942.

SAVANNAH

Displacement:	47 tons
Dimensions:	83 × 16 × 4½ feet
Machinery:	Diesels. 2 shafts. B.H.P.: 200=9 kts.
Complement:	12

Notes

Ux-U.S.C.G. cutter 56200, built in the U.S.A. in 1944 and acquired in 1944.

LANDING CRAFT

ARTIBONTE (ex-U.S. *LCT*)

Displacement:	134 tons *standard* (285 tons *full load*)
Dimensions:	120⅓ (*o.a.*) × 32 × 4½ feet
Machinery:	3 diesels. B.H.P.: 675=8 kts.
Complement:	12

Notes

Salvaged by Haitian Coast Guard after grounding. Pennant No. GC 5. Laid up in reserve having been damaged by grounding in Mar. 1956. *Vertieres* GC 6 (ex-U.S.S. *APC* 92) was lost at sea.

PRESIDENTIAL YACHT

SANS SOUCI (ex-*Captain James Taylor*)

Displacement:	161 tons
Machinery:	Diesels. 2 shafts. B.H.P.: 300=10 kts.

HONDURAS

Notes

A frigate has been reported adapted for mercantile use, but it was officially stated in Mar. 1960 that Honduras has no navy or armed vessels worthy of inclusion in *Fighting Ships*.

Mercantile Marine

Lloyd's Register of Shipping: 78 vessels of 201,831 tons *gross*

HUNGARY

PATROL LAUNCHES

Displacement:	100 tons

Notes

Ten of these patrol launches are reported to be in commission.

RIVER PATROL VESSEL

BAYA (ex-*Barsch*)

Displacement:	140 tons
Dimensions:	149¼ × 19½ × 3½
Guns:	2—70 mm., 2 M.G.
Machinery:	A.E.G. turbines. 2 shafts. S.H.P.: 1,200=15 kts.
Boilers:	2 Yarrow
Oil fuel:	18 tons
Complement:	44

Notes

Built at the Ganz-Danubius Yard, Budapest, and launched in 1918. Her screws work in tunnels.

DEPOT SHIP

CSOBÁNC

Displacement:	305 tons
Dimensions:	132 × 18 × 4½ feet
Machinery:	2 Diesels. Tunnel screws. B.H.P.: 180=8 kts.
Oil fuel:	8 tons
Complement:	18

Notes

Built at the Ganz-Danubius Yard, Budapest, and launched in 1928.

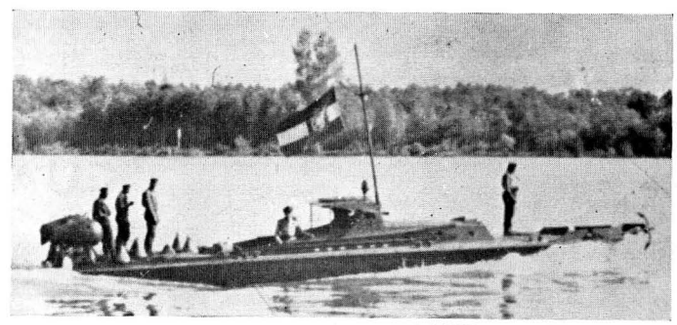
MINESWEEPERS

Displacement:	70 tons

Notes

Two of these small minesweepers are reported to be in commission or reserve.

RIVER MINESWEEPERS



Added 1957, *courtesy M. J. Meister*

Displacement:	12 tons
Guns:	2 M.G.
Mines:	8
Armour:	8 mm.
Machinery:	2 diesels. B.H.P.: 75

Notes

Ten river minesweepers of this armoured type have been reported. They can sweep or lay mines.

TRAINING SHIP

BADACSONY

Displacement:	225 tons
Machinery:	H.P.: 400=10·5 kts.

ICELAND

Administration

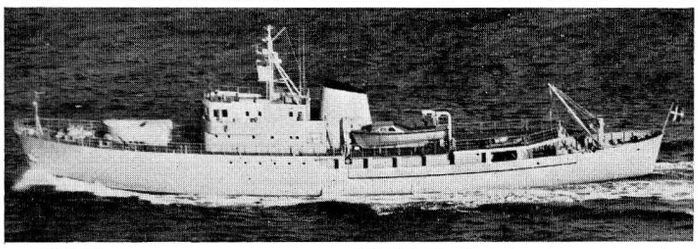
Minister of Justice: Mr. B. Benediktsson.
Director, Coast Guard Service: Captain Petur Sigurdsson.
The Coast Guard Service (Landhelgisgaezlan) deals with fishery protection, salvage, hydrographic research and surveying.

Ships: Prefix v/s, colour: dark grey.

Mercantile Marine

Lloyd's Register of Shipping: 128 vessels of 91,025 tons *gross*

COASTGUARD PATROL VESSELS

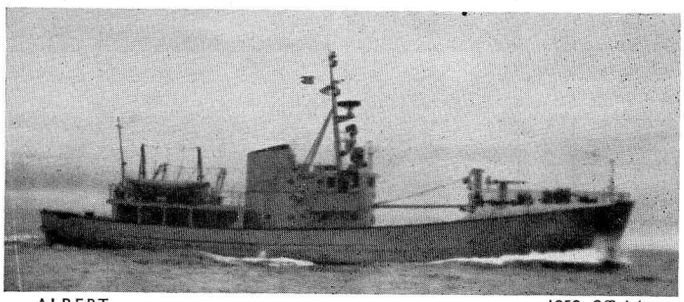


ODINN 1960, *Islandic Coast Guard Service, Official*

ODINN

Displacement:	1,000 tons (officially revised figure)
Dimensions:	200 (*w.l.*), 207 (*o.a.*) × 31 × 18½ feet
Guns:	1—57 mm.
Machinery:	2 diesel motors. 2 shafts. B.H.P.: 5,000 = 18 kts.
Complement:	30

Notes
A new coast guard vessel built at Aalborg Vaerft A/S, Denmark. Launched in 1959. Completed in 1960.

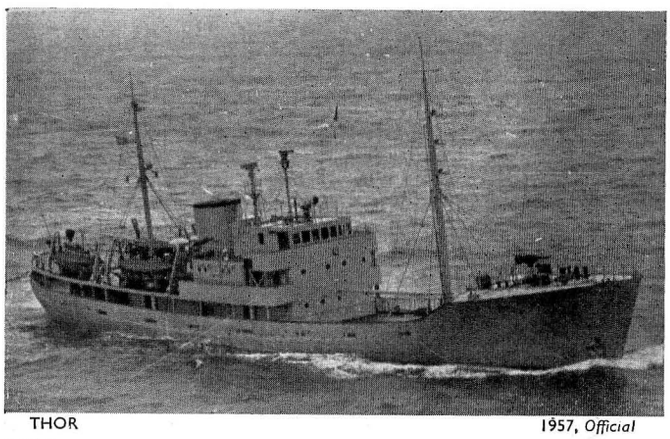


ALBERT 1958, *Official*

ALBERT

Measurement:	200 tons *gross*
Dimensions:	Length: 111½ feet
Guns:	1—47 mm.
Machinery:	1 Nohab diesel motor. B.H.P.: 650 = 12·5 kts.
Complement:	15

Notes
Launched in 1956. Completed and commissioned in Apr. 1957.



THOR 1957, *Official*

THOR

Displacement:	920 tons
Measurement:	693 tons *gross*
Dimensions:	183⅓ (*pp.*), 206 (*o.a.*) × 31⅛ × 13 feet
Guns:	1—57 mm.
Machinery:	2 Crossley diesel motors. B.H.P.: 3,200 = 17 kts.
Complement:	28

Notes
Built at Aalborg, Denmark. Launched in 1951. Completed and commissioned late 1951. Rated as coastal inspection and salvage vessel.

GAUTUR (ex-*Odinn*)

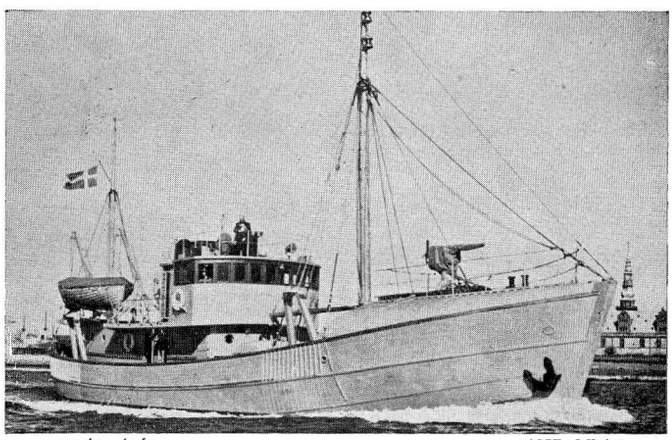
Displacement:	72 tons
Guns:	1—47 mm.
Machinery:	Petters diesel motor. B.H.P.: 425 = 10.5 kts.
Complement:	11

Notes
Built in Iceland. Launched in 1938. Rebuilt in 1954. Also used for surveying. This vessel was re-named *Gautur* when the name *Odinn* was given to the new large patrol vessel built in 1959-60 (see above). Photograph in the 1956-57 and 1957-58 editions.

TYR

Measurement:	33 tons
Dimensions:	Length, 60 feet
Machinery:	3 Perkins diesel motors. B.H.P.: 390 = 12 kts.
Complement:	6

Notes
Surveying launch. Also used for local fishery inspection. Ex-R.A.F. 60 ft. pinnace. Photograph in the 1957-58 edition.



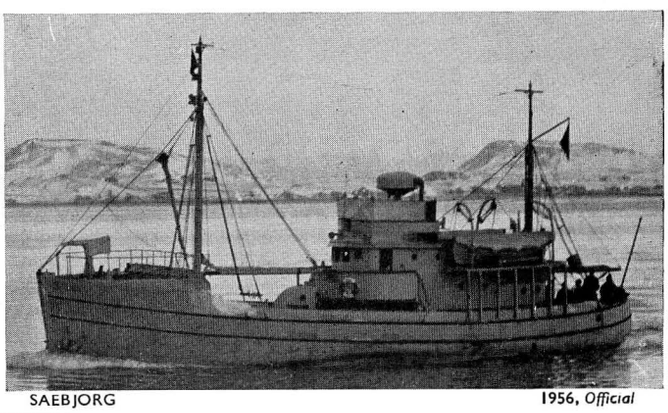
MARÍA JÚLÍA 1957, *Official*

MARÍA JÚLÍA

Measurement:	138 tons *gross*
Dimensions:	Length: 90½ feet
Guns:	1—47 mm.
Machinery:	Petters diesel motor. B.H.P.: 470 = 11·5 kts.
Complement:	12

Notes
Built at Frederikssund, Denmark. Launched in 1950. Also used for inshore fishery and hydrographic research.

The fishery protection patrol vessel and lighthouse tender *Hermodur* foundered off south-west Iceland on 17 Feb. 1959. She has been replaced by the new large patrol vessel *Odinn*, see previous column.

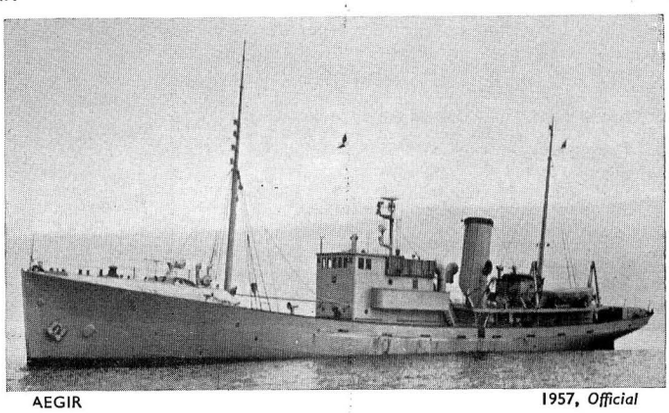


SAEBJORG 1956, *Official*

SAEBJORG

Measurement:	98 tons *gross*
Dimensions:	Length: 80½ feet
Guns:	1—47 mm.
Machinery:	Atlas Imperial diesel motor. B.H.P.: 320 = 10 kts.
Complement:	11

Notes
Built at Frederikssund, Denmark. Launched in 1937. Rebuilt, enlarged and re-engined in 1947.



AEGIR 1957, *Official*

AEGIR

Measurement:	507 tons *gross*
Dimensions:	171½ (*pp.*), 187 (*o.a.*) × 29½ × 14½ feet
Guns:	1—57mm.
Machinery:	B. & W. diesel engines. B.H.P.: 1,300 = 13·5 kts.
Complement:	25

Notes
Built by Burmeister & Wain, Copenhagen. Launched on 25 Apr. 1929. Rebuilt in 1953. Also used as Research Vessel for offshore and hydrographic research.

INDONESIA

Administration

Chief of Naval Staff Angkatan Laut (Naval Forces):
Rear-Admiral Raden Edi Martadinata

Naval Attache in London:
Commander R. Sardjoeno

Personnel

14,000 officers and men, including 4,000 in Marine Corps

Mercantile Marine

Lloyd's Register of Shipping
205 vessels of 155,710 tons *gross*

DESTROYERS

4 Ex-U.S.S.R. "Skoryi" Class

SILIWANGI **SINGAMANGARADJA**

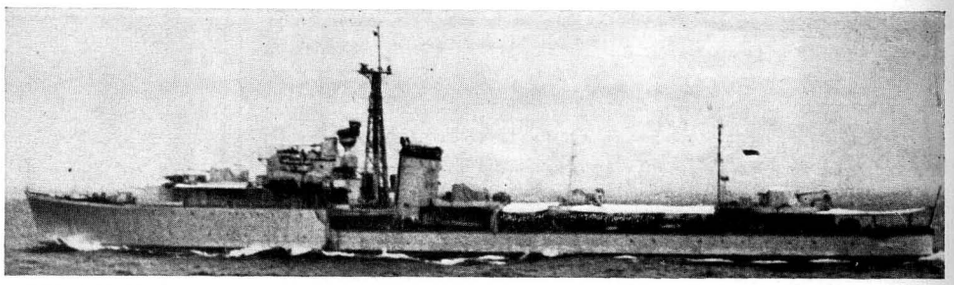
Displacement:	2,600 tons *standard* (3,500 tons *full load*)
Dimensions:	393¾ (*pp.*), 420 (*o.a.*) × 41 × 13⅛ feet
Guns:	4—5·1 inch (twin), 2—3 inch AA., 7—37 mm. AA. (Some have 8—37 mm. AA. in twin mounts).
Tubes:	10—21 inch
A/S weapons:	4 D.C.T.
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Radius:	4,000 miles at 15 kts.
Complement:	250

Notes
Former Soviet destroyers of the "Skoryi" type. Built in 1951-56. Transferred from the U.S.S.R. to the Indonesian Navy in 1959.

1 Ex-British "N" Type

GADJAH MADA (ex-*Tjerk Hiddes*, ex-*Nonpareil*)

Builders:	Wm. Denny & Bros. Ltd., Dumbarton
Laid down:	22 May 1940
Launched:	25 June 1941
Completed:	30 Oct. 1942
Displacement:	1,760 tons *standard* (2,540 tons *full load*)
Dimensions:	348 (*pp.*), 356½ (*o.a.*) × 35⅝ × 9 feet
Guns:	6—4·7 inch, 4—40 mm. AA., 6—20 mm. AA.
Tubes:	10—21 inch (quintupled)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36 kts. designed (30·5 kts. sea speed)
Boilers:	2, of 3-drum type
Oil fuel:	486 tons
Radius:	1,600 miles at 20 kts.
Complement:	264



GADJAH MADA — 1955, *Indonesian Navy, Official*

Notes
Formerly a destroyer of the "N" Class. Purchased from Great Britain by the Netherlands in 1941. Transferred from the Royal Netherlands Navy to the Indonesian Navy on 1 Mar. 1951. Formerly flagship of the Indonesian Navy. Now reported to be laid up with guns removed.

FRIGATES

2 "Surapati" Class (*Light Destroyers*)

	IMAM BONDJOL	**SURAPATI**
Name:	*Imam Bondjol*	*Surapati*
Laid down:	8 Jan. 1956	Jan. 1956
Launched:	5 May 1956	5 May 1956
Completed:	19 May 1958	28 May 1958

Displacement:	1,150 tons *standard* (1,500 tons *full load*)
Dimensions:	295½ (*p.p.*), 325 (*o.a.*) × 36 × 8½ feet.
Guns:	4—4 inch (102 mm.) 46 cal. AA. in two twin mounts, 6—30 mm. (3 twin), 6—20 mm. AA. (3 twin)
Tubes:	3—21 inch
A/S weapons:	2 hedgehogs, 4 D.C.T., 1. D.C. track
Machinery:	2 sets Parsons geared turbines. 2 shafts, S.H.P.: 24,000=32 kts.
Boilers:	2 Foster Wheeler
Oil fuel:	350 tons
Radius:	2,800 miles at 22 kts. (cruising speed)
Complement:	200

Notes
Fast frigate or light destroyer type. Both built at Ansaldo Yard, Leghorn, Italy. Photograph of *Imam Bondjol* in the 1958-59 edition.



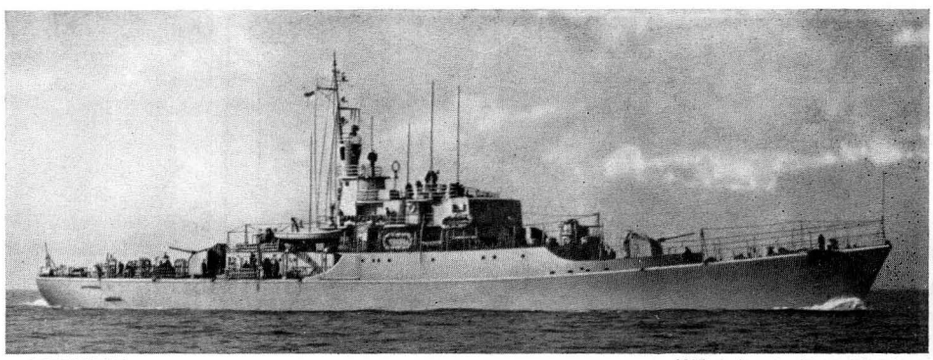
SURAPATI — 1959, *courtesy Ansaldo, Builders*

2 "Pattimura" Class (*Escort Sloops*)

	PATTIMURA	**HASANUDIN**
Name:	*Pattimura*	*Hasanudin*
Laid down:	8 Jan. 1956	8 Jan. 1956
Launched:	1 July 1956	24 Mar. 1957
Completed:	28 Jan. 1958	8 Mar. 1958

Displacement:	950 tons *standard* (1,200 tons *full load*)
Dimensions:	246 (*p.p.*), 270¼ (*o.a.*) × 34 × 9 feet
Guns:	2—3 inch, 40 cal. AA., 2—30 mm. 70 cal. Hispano Suiza A A. (twin)
A/S weapons:	2 hedgehogs, 4 D.C.T., 1 D.C. track
Machinery:	3 Ansaldo-Fiat diesels. 3 shafts. B.H.P.: 6,900=22 kts.
Oil fuel:	100 tons
Radius:	2,400 miles at 18 kts. cruising speed)
Complement:	110

Notes
Small sloop or fast corvette type. Both built at Ansaldo Yard, Leghorn, Italy.



PATTIMURA — 1958, *Indonesian Navy, Official*

SUBMARINES

2 Ex-U.S.S.R. "W" Class

MANGALA

Displacement:	1,030 tons (*surface*); 1,180 tons (*submerged*)
Dimensions:	240 (*o.a.*) × 22 × 15 (*max.*) feet
Guns:	2—57 mm., 2—25 mm.
Tubes:	6—21 inch (4 forward, 2 aft). 14 torpedoes carried
Mines:	40 mines or 20 torpedoes
Machinery:	Diesel-electric. Twin screws. Diesels B.H.P.: 4,000=17 kts. (*surface*) Electric motors: H.P.: 2,500=15 kts. (*submerged*)
Radius:	13,000 to 16,500 miles
Complement:	60

Notes
Former Soviet submarines of the medium sized, long range "W" class. Delivered to Indonesia by the U.S.S.R. in Aug. 1959.

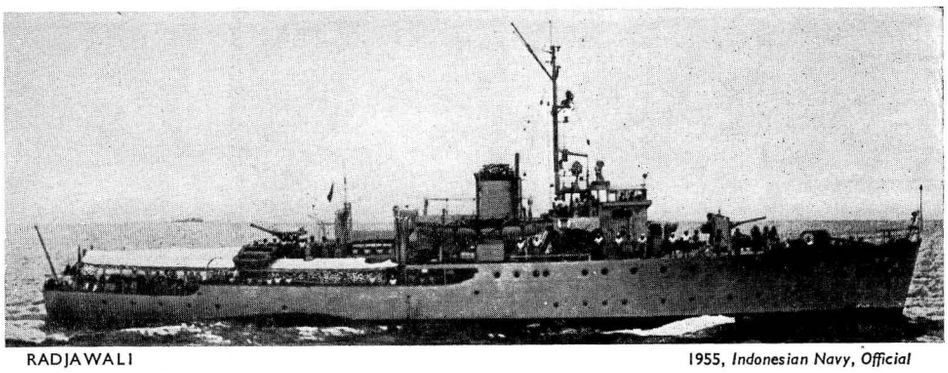
CORVETTES

3 " Banteng " Class (*Minesweepers*)

BANTENG (ex-*Ambon*, ex-*Cairns*, 7 Oct. 1941)
PATI UNUS (ex-*Tidore*, ex-*Tamworth*, 14 Mar. 1942)
RADJAWALI (ex-*Banda*, ex-*Wollongong*, 5 July 1941)

Displacement:	815 tons *standard* (1,025 tons *full load*)
Dimensions:	162 (*pp*)., 186 (*o.a.*)×31×8½ feet
Guns:	1—4 inch, 1—40 mm. AA., 4—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=15·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	170 tons
Radius:	4,300 miles at 10 kts.
Complement:	56 to 70

Notes
All built in Australia as ocean minesweepers, *Banteng* and *Pati Unus* by Walkers, Maryborough, *Hang Tuah* by Evans Deakin, Brisbane, and *Radjawali* by Cockatoo Docks & Eng. Co. Launch dates above. *Hang Tuah* and *Pati Unus* were transferred from the Royal Netherlands Navy on 28 Dec. 1949, *Banteng* and *Radjawali* on 6 Apr. 1950. *Hang Tuah* (ex-*Morotai*, ex-*Ipswich*) was reported to have been sunk by rebel planes off Balikpapan, East Borneo, on 28 Apr. 1958.



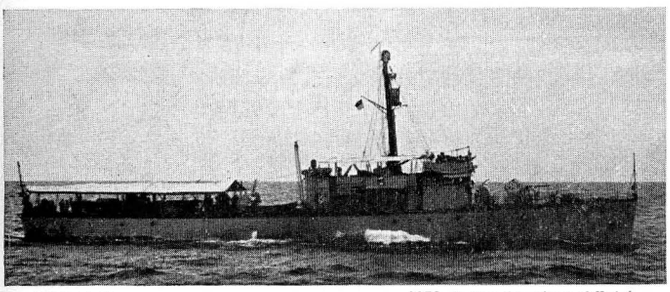
RADJAWALI — 1955, *Indonesian Navy, Official*

PATROL VESSELS

4 Ex.U.S.S.R. " Kronstadt " Class Submarine Chasers

Displacement:	300 tons
Dimensions:	167½×19½×9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth bomb projectors
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts. B.H.P.:=27 kts.
Oil fuel:	20 tons
Complement:	40

Notes
Former Soviet patrol vessels or submarine chasers of the " Kronstadt " type. Built in 1951-1954. Acquired from the U.S.S.R. in 1960.



ALU ALU — 1958, *Indonesian Navy, Official*

5 Ex-U.S. PC Type Submarine Chasers

ALU ALU (ex-U.S.S. *PC 787*)
HUI (ex-U.S.S. *Malvern*, *PC 580*)
TENGGIRI (ex-U.S.S. *PC 1183*)
TJAKALANG (ex-U.S.S. *Pierre*, *PC 1141*)
TORANI (ex-U.S.S. *Manville*, *PC 581*)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*)×23×7½ (*mean*), 10¾ (*max.*) feet
Guns:	1—3 inch, 1—40 mm. AA., 2—20 mm. AA., 4 D.C.T.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 2,880=20 kts.
Oil fuel:	60 tons
Radius:	5,000 miles at 10 kts.
Complement:	54 (4 officers, 50 men)

Notes
Former American submarine chasers of the steel-hulled PC type. *Pierre* was transferred from the U.S. Navy at Pearl Harbour, Hawaii, in Oct. 1958 and renamed *Tjakalang*. *Malvern* and *Manville* were transferred by the U.S.A. under the Mutual Defense Assistance Program in Mar. 1960 and renamed *Hui* and *Torani*, respectively, Pennant Nos. 317 and 318.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Alu Alu	Commercial Iron Works, Portland, Ore.	13 Jan. '43	12 Feb. '43	13 Nov. '43
Hui	Albina E. & M. Works, Portland, Ore.	22 Jan. '42	29 Apr. '42	26 Sep. '42
Tenggiri	Gibbs Gas Engine Co., Jacksonville, Fla.	27 Oct. '42	7 July '43	7 Dec. '43
Tjakalang	Defoe S.B. Corpn., Bay City, Mich.	12 Mar. '43	22 June '43	28 Dec. '43
Torani	Albina E. & M. Works, Portland, Ore.	12 Feb. '42	8 July '42	9 Oct. '42

FAST PATROL BOATS

8 German-Built " Jaguar " Type

ADJAK **BERUANG** **MADJAN KUMBANG** **SERIGALA**
ANOA **MATJAN TUTUL**

Displacement:	150 tons
Dimensions:	131 (*pp.*), 138 (*o.a.*)×25×5 feet
Guns:	2—40 mm. AA. (single)
Machinery:	4 Daimler-Benz diesels. 4 shafts. B.H.P.: 12,000=40-42 kts.
Complement:	39

Notes
Built to the order of the Indonesian Navy by the German yard of Fr. Lürssen, Bremen-Vegesack in 1959-60. Fast patrol boats similar to the motor torpedo boats or *schenllboote* of the " *Jaguar* " class in the West German Navy (*Bundesmarine*). The first four boats have wooden hulls, but the second four were built of steel.

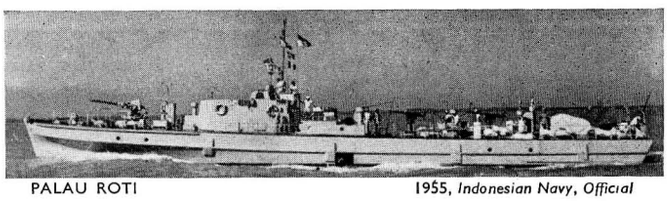
COASTAL MINESWEEPERS

6 New Construction

DKN 901 **DKN 903** **DKN 905**
DKN 902 **DKN 904** **DKN 906**

Displacement:	140 tons
Dimensions:	128×19×5¼ feet
Guns:	4—20 mm. AA.
Machinery:	Maybach diesels. 2 shafts. B.H.P.: 3,000=24·5 kts.

Notes
Coastal minesweepers to be used also as patrol craft and police boats. Built in Germany in 1958-59, three by Lürssen, Vegesack and the others by Abeking & Rasmussen, Lemiverder.



PALAU ROTI — 1955, *Indonesian Navy, Official*

10 " R " Class (Raum-boats)

PALAU RAAS **PALAU REMPANG** **PALAU ROMA**
PALAU RANGSANG **PALAU RENGAL** **PALAU ROTI**
PALAU RAU **PALAU RINDJA** **PALAU RUPAT**
PALAU RUSA

Displacement:	139·4 tons *standard*
Dimensions:	129×18¾×5 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	2 MAN diesels 12 cyl. (V-motor type) B.H.P.: 2,800=24·6 kts.
Complement:	26

Notes
Built in Germany by Abeking & Rasmussen Yacht-und Bootswerft, Lemwerder I.O., in 1954-57. These boats have a framework of light metal covered with wood.

2 MMS "126 ft " 1001 Type

DUIVELAND (ex-*MMS 1674*) **IJSELMONDE** (ex-*MMS 1026*)

Displacement:	254 tons *standard* (360 tons *full load*)
Dimensions:	126 (*pp.*), 139⅝ (*o.a.*)×26×10½ (*mean*), 12½ (*max.*) feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	Diesel. B.H.P.: 540=10 kts.
Complement:	21

Notes
Former British large motor minesweepers of the MMS II type transferred from the Royal Netherlands Navy on 23 Feb. 1952. Reported to be no longer sea-going, and their continued existence is doubtful.

4 Auxiliary Type

DJAMPEA **DJOMBANG** **ENGGANO** (ex-*Hino Maru*) **FLORES**

Displacement:	175 tons
Dimensions:	106¾ (*pp.*), 113¾ (*Flores* 114½) (*o.a.*)×18½×6¼ feet
Machinery:	1 Enterprise diesel. B.H.P.: 360=12·5 kts.

Notes
First three were commissioned in 1941. *Flores* was completed by the Japanese during the occupation of Java. First two were built at Droogdok Maatschappij, Soerabaya, and the other two at Droogdok Mij, Tandjorg Priok. Used as auxiliary minesweepers by the Royal Netherlands Navy. *Enggano* was re-named by Japanese. These ships were recovered after the war.

PATROL BOATS

6 Ex-Yugoslavian " Kraljevica " Class Submarine Chasers

BUNARD **JAJAND** **LEMADANG**
DORANG **KAPRAY** **TODAK**

Displacement:	190 tons
Dimensions:	134½×20¾×7 feet
Guns:	1—3 inch, 1—40 mm. AA., 4—20 mm. AA.
A/S weapons:	D.C.
Machinery:	Diesel. 2 shafts. B.H.P.: 3,300=20 kts.

Notes
Former Yugoslavian patrol boats of the " Kraljevica " or " PBR 500 " class. Purchased from Yugoslavia and transferred to the Indonesian Navy in 1959.

Patrol Boats—*continued*

New Acquisitions
On 27 Feb. 1959 Indonesia announced she would acquire from the U.S.A. two minesweepers to be used as patrol craft.

6 " Pat " Class

PAT 01 **PAT 02** **PAT 03** **PAT 04** **PAT 05** **PAT 06**

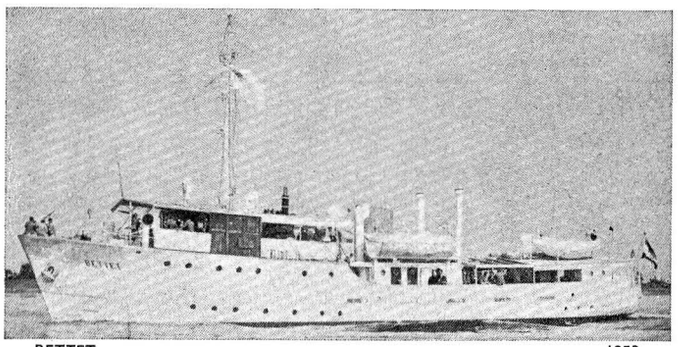
Dimensions: 91⅞ (*pp*), 100⅜ (*o.a.*) × 17 × 6 feet
Machinery: 2 Caterpillar diesels. B.H.P.: 340

6 " Balam " Class

BALAM **BARAU** **BEKAKA** **BELATIK** **BENDALU** **BOGA**

Measurement: 200 tons *gross*
Dimensions: 125½ (*o.a.*) × 21½ × 6½ feet
Machinery: Werkspoor diesel engine. B.H.P.: 400-430 = 11 kts.

Notes
All launched in 1953. *Balam* and others were commissioned for service in 1953.



BETTET 1953

7 " Bango " Class

BANGO **BABUT** **BEO** **BETTET** **BIDO** **BLEKOK** **BLIBIS**

Measurement: 194 tons *gross*
Dimensions: 120½ (*pp.*), 125½ (*o.a.*) × 21½ × 6⅞ feet
Machinery: Werkspoor diesel engine. B.H.P.: 430 = 11 kts.

Note
All launched in 1952.

7 " Durian " Class

DAIK **DAGONG** **DAMARA** **DATA** **DUATA** **DUKU** **DURIAN**

Displacement: 90 tons
Dimensions: 78½ × 16 × 6¾ feet
Machinery: Caterpillar diesel. B.H.P.: 190

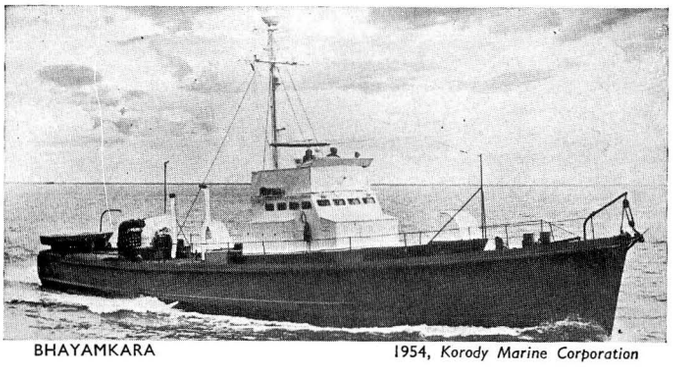
Note
All launched in 1952.

12 " Alkai " Class

ALKAI **ALULU** **AMPIS** **ANKANG** **ANTANG** **ARYAT**
ALLAP **AMPOK** **ANDIS** **ANKLOENG** **AROKWES** **ATTAT**

Displacement: 143 tons (247 tons *full load*)
Dimensions: 124½ × 18½ × 5½ feet
Guns: 1—37 mm. 4 M.G.
Machinery: Enterprise Diesel engine. B.H.P.: 400-450 = 12 kts.
Complement: 20

Notes
Built in the Netherlands. *Ampok* and *Alkai* were shipped to Indonesia on 17 Mar. 1950



BHAYAMKARA 1954, *Korody Marine Corporation*

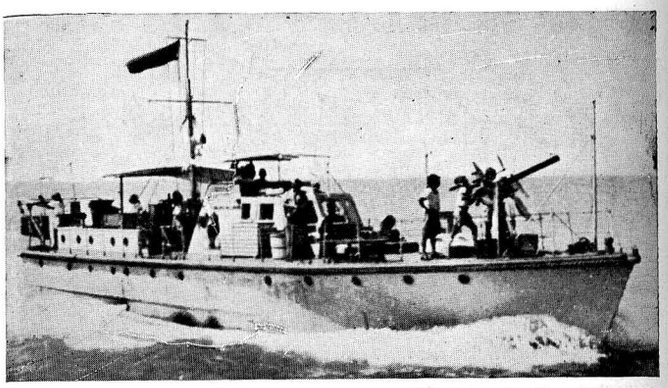
3 Ex-U.S. SC Type

BHAYAMKARA I **BHAYAMKARA II** **BHAYAMKARA III**

Displacement: 116 tons (trials), (148 tons *full load*)
Dimensions: 107½ (*w.l.*), 110⅜ (*o.a.*) × 17 × 6½ feet
Machinery: Diesel: B.H.P.: 800 = 15·5 kts.

Notes
Former United States submarine chasers of the 110 ft. SC type. Refitted by Korody Marine Corporation. Operated by the Indonesian Marine Police.

SEAWARD DEFENCE CRAFT



1951, *Indonesian Navy, Official*

25 Ex-HDML Patrol Boat Types

PP 01	**PP 06**	**PP 011**	**PP 016**	**PP 021**
PP 02	**PP 07**	**PP 012**	**PP 017**	**PP 022**
PP 03	**PP 08**	**PP 013**	**PP 018**	**PP 023**
PP 04	**PP 09**	**PP 014**	**PP 019**	**PP 024**
PP 05	**PP 10**	**PP 015**	**PP 020**	**PP 025**

Displacement: 46 tons *standard* (54 tons *full load*)
Dimensions: 72 × 16 × 5½ feet
Guns: 1—37 mm., 2—20 mm. Oerlikon M.G.
Machinery: 2 diesels. 2 shafts. B.H.P.: 300 = 11 kts.
Complement: 10

Notes
All ex-Netherlands patrol boats. Built in 1943-46. Formerly British HDML type *RP* 109, *RP* 111, *RP* 112, *RP* 114 and *RP* 118 (ex-*HDML* 1451, *HDML* 1472, *HDML* 1473, *HDML* 1454 and *HDML* 1449).

Displacement: 44 tons *standard* (56 tons *full load*)
Dimensions: 62 (*o.a.*) × 18½ × 4 feet
Guns: 1—20 mm. AA., 1 M.G.
Machinery: 1 diesel. B.H.P.: 165 = 10 kts.
Complement: 10

Notes
Built in 1945-46. Former American Higgins type motor launches, later Netherlands *RP* 120, *RP* 121, *RP* 122, *RP* 124, *RP* 125, *RP* 127, *RP* 128, *RP* 130, *RP* 134 and *RP* 136, transferred to Indonesia in 1950.

Displacement: 54 tons
Guns: 1—40 mm. AA., 2—20 mm. AA.
A/S weapons: 8 D.C.T.
Machinery: Speed = 11 kts.
Complement: 10

Notes
Former Netherlands motor launch *RP* 138, transferred by the Royal Netherlands Navy in 1950.

LANDING SHIP

1 Ex-U.S. LST 511-1152 Type

TELUK LANGSA, LST 868 (ex-U.S.S. *Solano County*, *LST* 1128)

Displacement: 1,653 tons *standard*, 2,366 *beaching*, 3,960 *trials* (4,080 tons *full load*)
Dimensions: 316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns: 7—40 mm. AA., 2—20 mm. AA.
Machinery: General Motors diesels. 2 shafts. B.H.P.: 1,700 = 11·6 kts.
Cargo capacity: 2,100 tons
Complement: 119 (accommodation for 266)

Notes
Former American tank landing ship of the 511-1152 series. Transferred to Indonesia by the United States under the Mutual Defense Assistance Program at Seattle, Washington, on 31 Mar. 1960. (Indonesia announced that she was to acquire this ship from the United States on 27 Feb. 1959.)

LANDING CRAFT

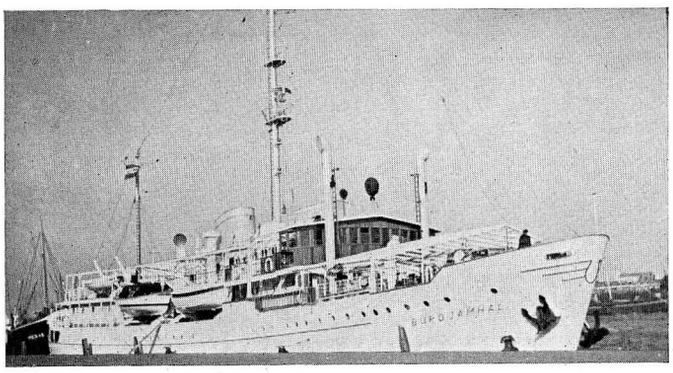
5 Ex-U.S. LCI Type

AMAHAI (ex-*Tropenvogel*, *LCI* 467)
BARUNA (ex-*Jjsvogel*, *LCI* 948)
MARICH (ex-*Zeemeeuw*)
NAMLEA (ex-*Stormvogel*, *LCI* 588)
PIRU (ex-*Zeearend*, *LCI* 420)

Displacement: 250 tons *standard* (381 tons *full load*)
Dimensions: 158 × 23 × 7 feet
Guns: 1—37 mm., 2 Vickers M.G.
Machinery: G.M. (Super High Speed Diesel). B.H.P.: 1,800 = 15 kts.
Complement: 60

Notes
Former United States infantry landing craft. Turned over from the Netherlands East Indies Government on the formation of the Indonesian Navy in 1950. Photograph in the 1951-52 to 1957-58 editions.

SURVEYING VESSELS



BURDJAMHAL 1954 *courtesy P. Bronsveld*

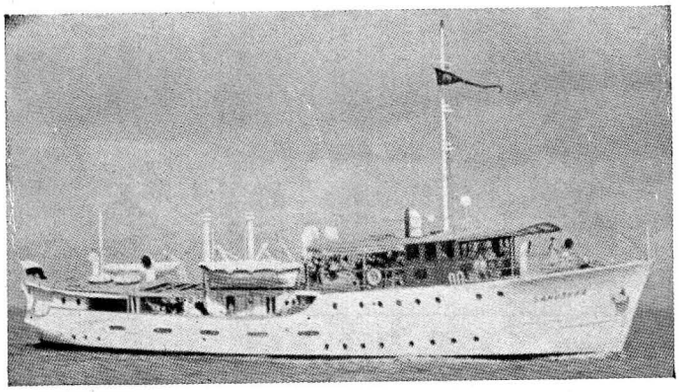
1 Oceangoing Type

BURDJAMHAL

Displacement:	1,200 tons
Dimensions:	211⅜ (*o.a.*), 192 (*pp.*) × 33¼ × 10 feet
Machinery:	2 Werkspoor diesel engines. B.H.P.: 1,160 = 10 kts.
Complement:	90

Notes

Built by Scheepswerf De Waal, Zaltbomme. Launched on 6 Sept. 1952. Completed on 6 July 1953.



SAMUDERA 1953

1 Modified "Bango" Type (*Laboratory Ship*)

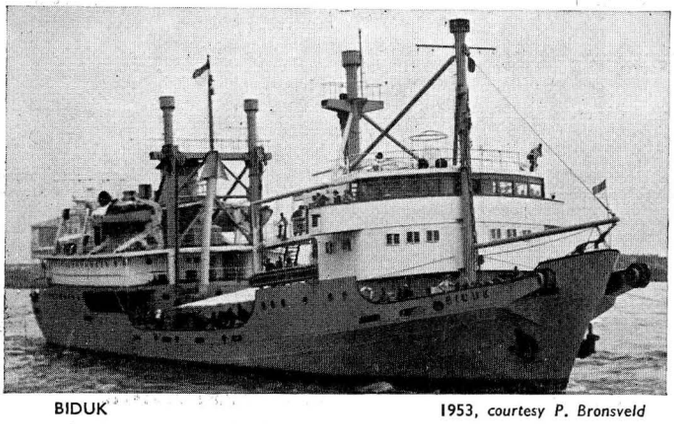
SAMUDERA

Measurement:	200 tons *gross*
Dimensions:	125¼ × 21½ × 9⅜ feet
Machinery:	Werkspoor diesel engine. B.H.P.: 450

Notes

Built by Ferus Smit, Foxol. Launched on 28 May 1952. Completed on 28 Aug. 1952. Same type as "Bango" class motor patrol vessels, equipped as a laboratory ship. Used for deep sea exploration in Indonesian waters.

LIGHTHOUSE TENDER



BIDUK 1953, *courtesy P. Bronsveld*

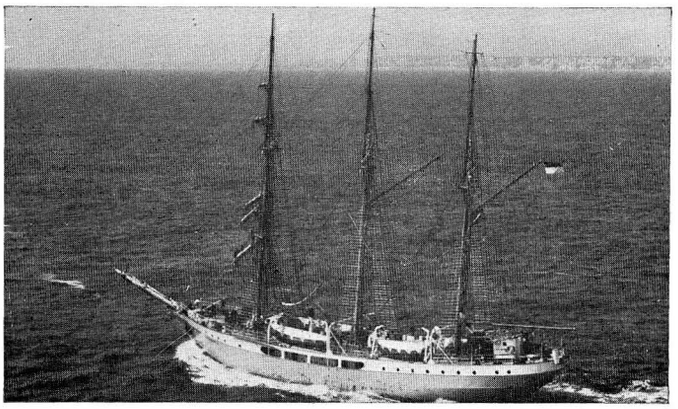
BIDUK

Displacement:	1,250 tons *standard*
Dimensions:	213¼ (*o.a.*) × 39½ × 11½ feet
Machinery:	1 Triple expansion engine. I.H.P.: 1,600 = 12 kts.
Complement:	66

Notes

Lighthouse Tender Cable Layer and multi-purpose naval auxiliary. Built by J. & K. Smit, Kinderijk. Launched on 30 Oct. 1951. Completed on 30 July 1952.

TRAINING SHIP



DEWARUTJI 1954, *Skyfotos*

DEWARUTJI

Displacement:	810 tons *standard* (1,500 tons *full load*)
Dimensions:	191¼ (*o.a.*), 136½ (*pp.*) × 31¼ × 13⅜ feet
Machinery:	MAN diesel engine. B.H.P.: 600 = 10·5 kts.
Complement:	110 (32 + 78 midshipmen)

Notes

Training ship for Indonesian Navy, built in Germany by H. C. Stülcken & Sohn, Hamburg. Launched on 24 Jan. 1953. Completed on 9 July 1953. Barquentine of iron construction. Sail area 1305 sq. yds. (1·091 sq. metres). Speed with sails 12·8 kts.

TENDERS

MERBABU (ex-*Merbaboe*) **RINDJANI**

Displacement:	80 tons
Dimensions:	74½ × 14½ × 5 feet
Machinery:	Diesel. B.H.P.: 135 = 10 kts.
Complement:	20

DIAMPEA

Measurement:	113 tons *gross*
Dimensions:	130½ × 18¾ × 6½ feet
Machinery:	Diesel B.H.P.: 360 = 10 kts.
Complement:	10

Notes

Launched in 1940. Reported to have been renamed.

TRANSPORTS

BISCAYA **CASA BLANCA**

Measurement:	750 tons
Dimensions:	168 × 27⅝ × 7¾ feet

Notes

Dual purpose troopships and cargo ships.

OILERS

2 Ex-U.S.S.R. Type

Notes

Former Russian tankers transferred to the Indonesian Navy in June 1958.

TJEPU (ex-*Scandus*, ex-*Nordhem*)

Displacement:	1,372 tons
Measurement:	1,042 tons *gross*
Dimensions:	226½ × 34 × 14¼ feet
Machinery:	Polard diesel. 1 shaft. B.H.P.: 850 = 11 kts

Notes

Built in Sweden in 1949. Acquired in 1951.

SALVAGE VESSEL

TRITON (ex-*Matsunoura Maru*)

Measurement:	383 tons gross
Dimensions:	182½ × 30 × 15 feet
Machinery:	Reciprocating. I.H.P.: 700

Notes

Former Japanese vessel. Launched in 1941. Reported to have been renamed.

TUG

GANDENG

Measurement:	610 tons *gross*
Machinery:	Speed = 7·5 kts.

Notes

Launched in 1940. Reported to have been given a new Indonesian name.

IRAN (PERSIA)

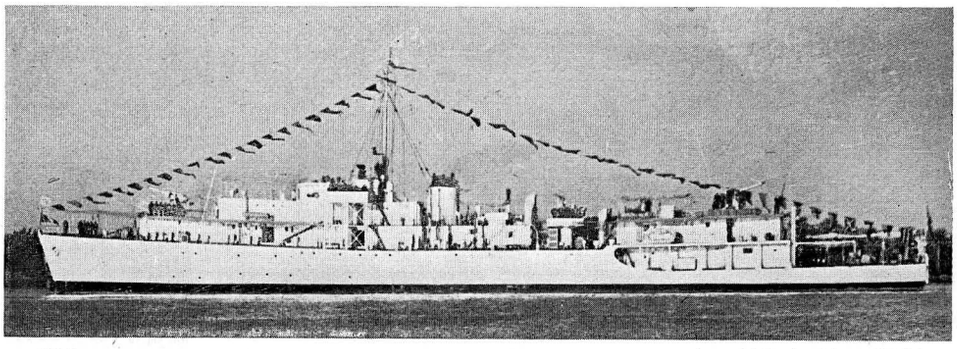
FRIGATE

1 Ex-British "Loch" Type

BABR (ex-H.M.S. *Derby Haven*, ex-*Loch Assynt*)

Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on Tyne
Laid down:	11 Feb. 1944
Launched:	14 Dec. 1944
Completed:	2 Aug. 1945
Displacement:	1,650 tons *standard* (2,160 tons *full load*)
Dimensions:	309 × 38½ × 8¾ (*mean*), 14½ (*max.*)
Guns:	2—4 inch, 4—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	725 tons
Radius:	9,500 miles at 12 kts.
Complement:	140

Notes
Modified "Loch" class frigate acquired from Great Britain in 1949. "Babr" means "Panther."



BABR — *Imperial Iranian Navy, Official*

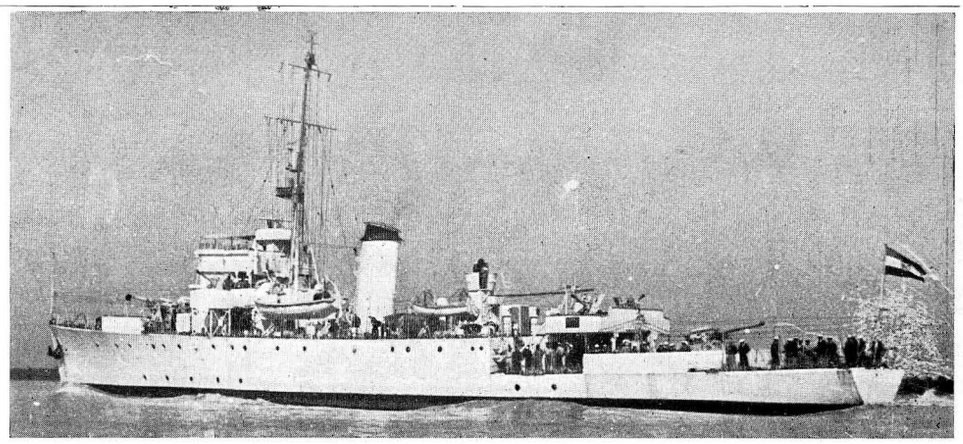
CORVETTE

1 Ex-British "Algerine" Type Escort Minesweeper

PALANG (ex-H.M.S. *Fly*)

Builders:	Lobnitz & Co., Ltd., Renfrew
Laid down:	6 Oct. 1941
Launched:	1 June 1942
Completed:	20 Oct. 1942
Displacement:	1,040 tons *standard* (1,235 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 13 feet
Guns:	2—4 inch, 4—40 mm. AA. 2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=16·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts.
Complement:	85

Notes
Former "Algerine" class ocean minesweeper and escort vessel acquired from Great Britain in 1949. "Palang" means "Tiger."



PALANG — 1957 *Imperial Iranian Navy, Official*

COASTAL MINESWEEPERS

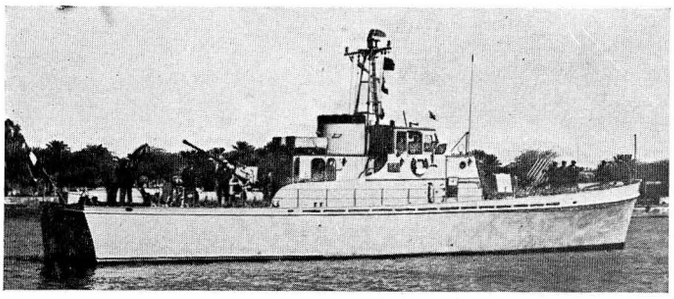
2 Ex-U.S. "Bluebird" Class, MSC Type

SHAHBAZ (ex-U.S.S. *MSC 275*) **SHAHROKH** (ex-U.S.S. *MSC 276*)

Displacement:	320 tons *light* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 8½ feet
Guns:	2—20 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 880=13 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	40 (4 officers, 2 midshipmen, 34 men)

Notes
Coastal motor minesweepers of wooden construction. Both built by Bellingham Shipyards Co. *Shahbaz* was launched on 22 Nov. 1958. Both transferred from the U.S.A. to Iran under the Mutual Defense Assistance Program at Seattle, Wash., *Shahbaz* on 9 Sep. 1959 and *Shahrokh* on 16 Nov. 1959. "Shahbaz" means Eagle and "*Shahrokh*" means Bird of Prey. Light minesweepers from the U.S.A. are being delivered under a phased 1960 programme.

PATROL BOATS



KEYVAN — 1957, *Official*

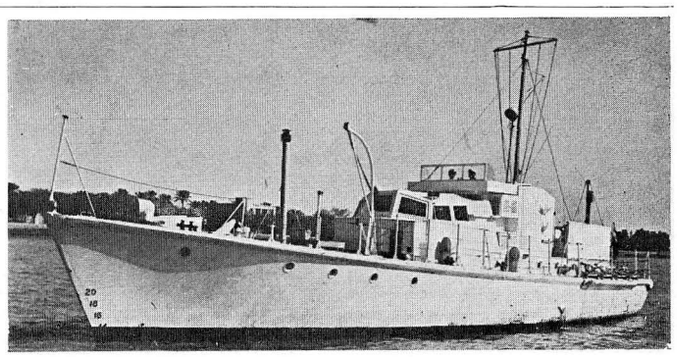
2 Ex-U.S. Coast Guard Type

KEYVAN **TIRAN**

Displacement:	80 tons *standard* (107 tons *full load*)
Dimensions:	90 (*pp.*), 95 (*o.a.*) × 20½ × 6¾ (*max.*) feet
Guns:	1—40 mm AA.
A/S weapons:	8—7·2 inch rockets. 8—300 lb. depth charges
Machinery:	4,600 H.P. Cummins diesels. 2 shafts. B.H.P.: 2,200=19·8 to 21 kts. (*max.*)
Radius:	1,500 miles cruising range
Complement:	15

Notes
Keyvan was built in the United States in 1955. She was delivered to Iran on 14 Jan. 1956. For service in the Caspian Sea. Pennant No. MDA 1. *Tiran* was built by the U.S. Coast Guard at Curtis Bay, Maryland, and transferred to Iran early in 1957 under the Mutual Defense Assistance Program. Fitted with air-conditioning equipment.

SEAWARD DEFENCE CRAFT



ASALON — 1957, *Official*

2 Ex-British HDML Type

ASALON (ex-*SML* 323, ex-*ML* 1081)
TAHMADOU FDB 65 (ex-*FDB* 58, ex-*SDML* 1389)

Displacement:	46 tons *standard* (58 tons *full load*)
Dimensions:	72 × 16 × 5 feet
Guns:	8 M.G.
Machinery:	Diesel. B.H.P.: 320=12 kts.
Complement:	10

Notes
Former British motor launches of the harbour (seaward) defence type. *SML* 323 (last employed on survey duties) was transferred from the British Navy to the Iranian Navy at Khorramshahr on 21 June 1956. Employed as despatch boats.

MOTOR LAUNCHES

3 "Babolsar" Class

BABOLSAR **GORGAN** **SEFIDROUDE**

Displacement:	28 to 32 tons
Dimensions:	68½ × 12½ × 5¼ feet
Guns:	1—47 mm. (Skoda), 1 M.G.
Machinery:	2 Krupp diesels. 2 shafts. B.H.P.: 300=14 kts.

Notes
Built in 1935 by Cant. Nav. Riuniti, Palermo, Italy. Employed in the Caspian Sea.

6 "Mah" Class

MAHNAVI-HAMRAZ **MAHNAVI-VAHEDI** **MORVARID**
MAHNAVI-TAHERI **MARDJAN** **SADAF**

Displacement:	10 tons
Dimensions:	40 × 11 × 3¾ feet
Guns:	M.G.
Machinery:	2 G.M. diesels

GUNBOATS

2 Ex-U.S. LSIL Type

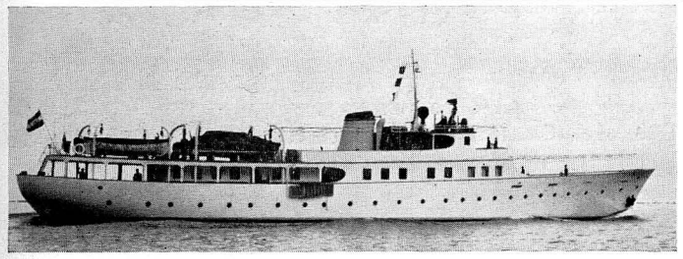
HENGAM (ex-French *LSIL* 9037, ex-U.S.S. *LSIL* 768) Ex-U.S.S. **LSIL 710**

Displacement:	209·2 tons *light* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 159 (*o.a.*) × 23⅜ × 5⅜ (*max.*) feet
Guns:	4—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 2,320 = 14·4 kts.
Complement:	40

Notes

Former American Landing Ships, Infantry, Large, built in 1944. LSIL 768 was ceded to France in 1953 by the United States for service in Indo-China, given back to the U.S.A. in 1957 and then transferred to Iran under the Mutual Defense Assistance Program. LSIL 710 was loaned to Iran by the United States in 1959

IMPERIAL YACHT



CHAHSAVAR 1958, *Imperial Iranian Navy, Official*

CHAHSAVAR

Displacement:	530 tons
Dimensions:	176½ × 25½ × 10½ feet
Machinery:	2 Sets Diesels by Gebr. Stork of Hengelo. B.H.P.: 1,300 = 15 kts.

Notes

Built by N.V. Boele's Scheepwerven, Bolnes, Netherlands. Launched in 1936. In Caspian Sea.

OILER

1 Italian Type

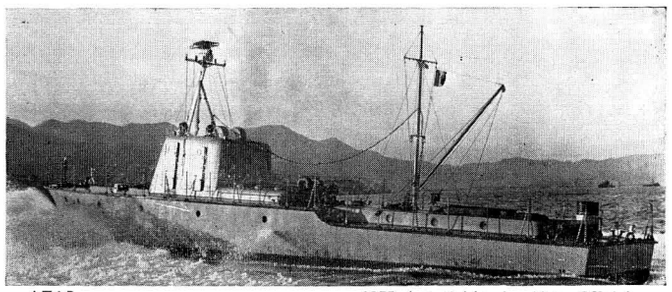
HORMUZ

Displacement:	1,250 tons *standard* (1,700 tons *full load*)
Dimensions:	171¼ (*w.l.*), 178½ (*o.a.*) × 32⅛ × 14 feet
Machinery:	1 Ansaldo Q 370, 4-cycle diesel
Oil fuel:	25 tons

Notes

Built by Cantiere Castellamare di Stabia. Cargo oil capacity 5,000 to 6,000 barrels. Pennant No. YO 247. Photograph in the 1957-58, 1958-59 and 1959-60 editions.

COAST GUARD CUTTERS



AZAR. 1955, *Imperial Iranian Navy, Official*

9 Spezia Type

AZAR **CHAHAB** **DARAKHSH** **NAVAK** **PEYKAN** **TONDBAD** **TONDAR** **TOUFAN** **TOUSAN**

Displacement:	65 tons *standard* (90 tons *full load*)
Dimensions:	90 × 16 × 9 feet
Guns:	M.G.
Machinery:	2 diesels. Speed = 22 kts.

Notes

Built by Cant. Nav. I.N.M.A., La Spezia. Removed from the Navy List in 1958 and transferred to the Coast Guard.

2 Ex-MTBs

Note

The two ex-air/sea rescue craft (ex-motor torpedo boats) were handed over to the Coast Guard in 1953.

TENDER

1 Ex-MFV

SIRRY (ex-*MFV* 1513)

Length:	90 feet

Notes

Purchased from Great Britain in 1949. Rated as a " Fire Extinguishing Boat ".

TUG

YADAK BAR (ex-*Neyrou*)

Displacement:	226 tons
Dimensions:	81 (*pp.*), 88½ (*o.a.*) × 22 × 10 feet
Guns:	2 M.G.
Machinery:	Triple expansion. I.H.P.: 600 = 11 kts.

Note

Built by Cant. Nav. Riuniti, Ancona. Launched on 9 Dec. 1944. In Persian Gulf.

IRAQ

MOTOR TORPEDO BOATS

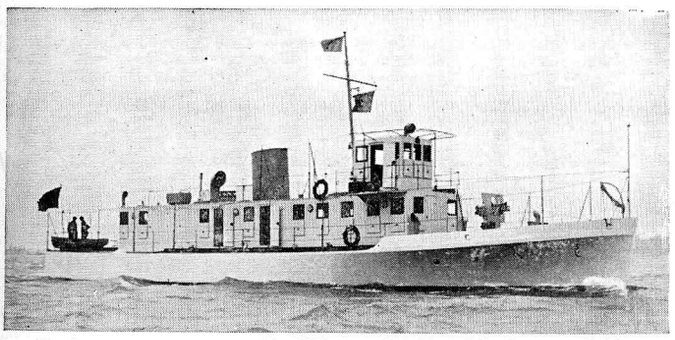
10 Ex-U.S.S.R. Type

Displacement:	50 tons
Dimensions:	82 × 20 × 6 feet
Guns:	4—13 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes

Presented by the U.S.S.R. Some were received in 1959, and more are expected to be delivered.

PATROL BOATS



No. 1 *courtesy John I. Thornycroft & Co. Ltd. Southampton, Builders*

4 Thornycroft Type

No. 1 **No. 2** **No. 3** **No. 4**

Displacement:	67 tons
Dimensions:	100 × 17 × 3 feet (*mean*)
Guns:	1—3·7 inch howitzer, 2—3 inch mortars, 4 M.G.
Machinery:	2 Thornycroft 6-cyl. diesels. 2 shafts. B.H.P.: 280 = 12 kts.

Notes

Protected by bullet-proof plating. All built by John I. Thornycroft & Co. Ltd., Woolston, Southampton, and launched in 1937. The first boat was launched on 16 Apr. 1937. All were completed and delivered by the summer of 1937.

New Construction

Eight patrol boats of 36 feet in length with a diesel of 125 B.H.P. and four 21 ft. pilot despatch launches with a diesel of 40 B.H.P. are under construction by John I. Thornycroft & Co. for the Iraqi Ports Administration.

LIGHTHOUSE TENDER

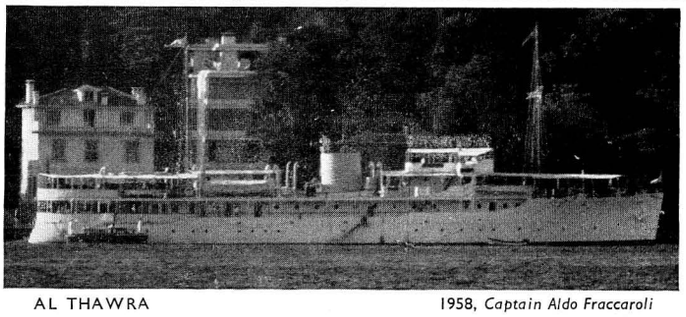
FAISAL I (ex-*Sans Peur*, ex-*Restless*)

Displacement:	1,025 tons
Dimensions:	186 × 29½ × 14½ feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850 = 13 kts.
Boiler:	1 oil-fired

Notes

Former Royal yacht. Designed by Messrs. G. L. Watson Ltd. Built by John Brown & Co. Ltd., Clydebank. Launched in 1923. Photograph in the 1937 to 1959-60 editions.

PRESIDENTIAL YACHT



AL THAWRA 1958, *Captain Aldo Fraccaroli*

AL THAWRA (ex-*Melike Aliye*)

Displacement:	746 tons
Machinery:	Diesels. 2 shafts. S.H.P.: 1,800 = 14 kts.

Note

This ship was acquired for use as the Royal Yacht before the assassination of King Faisal II in 1958, after which she was renamed *Al Thawra* (The Revolution) instead of *Melike Aliye* (Queen Aliyah).

TUG

ALARM (ex-*St. Ewe*)

Displacement:	570 tons *standard* (820 tons *full load*)
Dimensions:	135 × 30 × 14½ feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,200 = 12 kts.
Boilers:	2 oil-fired

Notes

Former British " Rescue " type tug of the " Saint " class. Built by Murdock & Murray. Launched in 1919.

ISRAEL

DESTROYERS

2 Ex-British "Z" Class

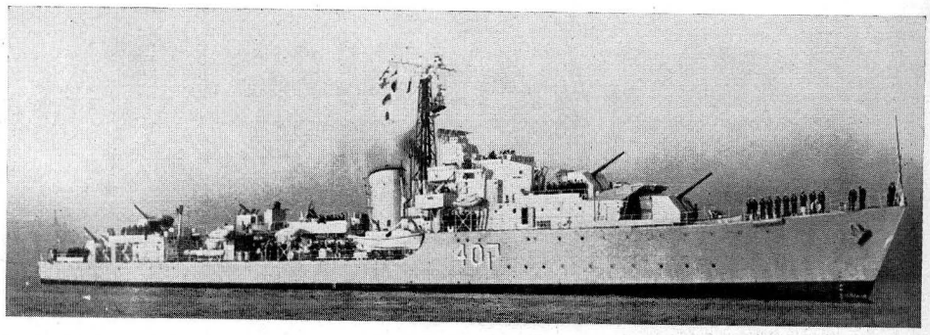
ELATH (ex-H.M.S. *Zealous*) **YAFFO** (ex-H.M.S. *Zodiac*)

	Elath	*Yaffo*
Name:		
Pennant No.:	40	42
Builders:	Cammell Laird & Co. Ltd., Birkenhead	John I. Thornycroft & Co. Ltd., Southampton
Laid down:	5 May 1942	7 Nov. 1942
Launched:	23 Feb. 1944	11 Mar. 1944
Completed:	9 Oct. 1944	25 Oct. 1944

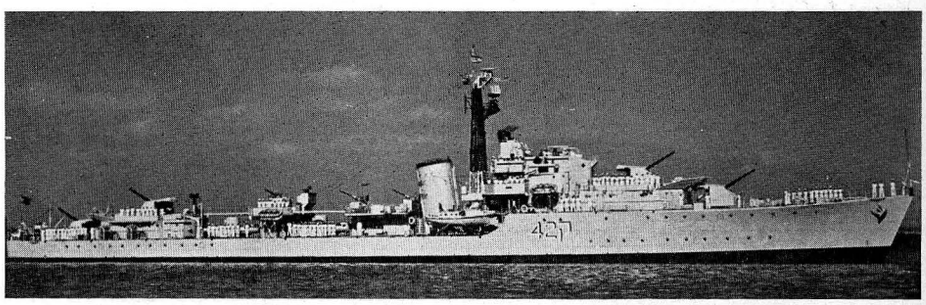
Displacement:	1,710 tons *standard* (2,555 tons *full load*)
Dimensions:	362¾ (*o.a.*) × 35⅝ × 16 (*max.*) feet
Guns:	4—4·5 inch d.p., 6—40 mm. AA.
Tubes:	8—21 inch
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. S.H.P.: 40,000=36·75 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	250

Notes

Purchased from Great Britain. Transferred to Israel on 15 July 1955 in Cardiff Docks. Refitted before going to Israel in 1956, *Elath* by Harland & Wolff in Langton Dock, Liverpool, *Yaffo* by Crichtons in Trafalgar Dock, Liverpool.



ELATH — 1958, *Israeli Navy, Official*



YAFFO — *Israeli Navy, Official*

FRIGATES

1 Ex-Egyptian "Hunt" Class

HAIFA (ex-*Ibrahim el Awal*, ex-*Mohamed Ali el Kebir*, ex-*Mendip*, ex-*Lin Fu*, ex-*Mendip*)

Pennant No.:	38
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne
Engineers:	The Wallsend Slipway & Engineering Co. Ltd., Wallsend
Laid down:	10 Aug. 1939
Launched:	9 Apr. 1940
Completed:	12 Oct. 1940

Displacement:	1,000 tons *standard* (1,490 tons *full load*)
Dimensions:	273½ (*pp.*), 280 (*o.a.*) × 20 × 7¾ (*mean*), 14 (*max.*) feet
Guns:	4—4 inch, 2—20 mm. AA.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=27·5 kts.
Boilers:	2, of three-drum type
Oil fuel:	280 tons
Radius:	3,000 miles at 14 kts.
Complement:	250

Notes

Originally an escort destroyer, subsequently reclassified as an anti-aircraft frigate, of the British "Hunt" Class, Type I.



HAIFA — 1959, *Israeli Navy, Official*

This ship, first named *Mendip*, served with the British Navy from Oct. 1940 until May 1948 when she was transferred to the Chinese Navy and renamed *Lin Fu*. She was returned to the British Navy at Hong Kong a year later and reverted to the name *Mendip*, but was transferred to the Egyptian Navy in Nov. 1949 and was first renamed *Mohamed Ali el Kebir* but was again renamed *Ibrahim el Awal* in 1951. She was captured from Egypt off Haifa by Israeli forces on 31 Oct. 1956 and renamed *Haifa*. She was commissioned for service in the Israeli Navy in Jan. 1957.

1 Ex-Canadian "River" Class

MISGAV (ex-H.M.C.S. *Strathadam*)

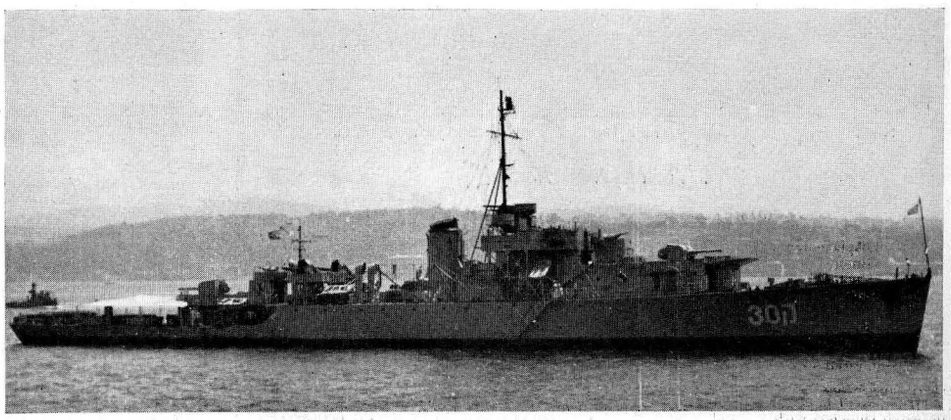
Pennant No.:	30 Q
Builders:	Yarrows Ltd., Esquimalt, B.C.
Launched:	20 Mar. 1944
Completed:	29 Sep. 1944

Displacement:	1,445 tons *standard* (2,360 tons *full load*)
Dimensions:	301½ × 36½ × 12 feet
Guns:	3—4·7 inch (120 mm.) 40 cal., 8—20 mm. AA., 70 cal. of Italian origin
A/S weapons:	6 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	440 tons
Radius:	9,500 miles at 10 kts.
Complement:	200

Notes

Canadian "River" type. An additional 4·7 inch gun was mounted in 1956.

Sister ships *Misnak* (ex-H.M.C.S. *Hallowell*) and *Mivtakh* (ex-H.M.C.S. *Violetta*) were sold to the Royal Ceylon Navy in Aug. 1959.



MISGAV — *Added 1960*

SUBMARINES

2 Ex-British "S" Class

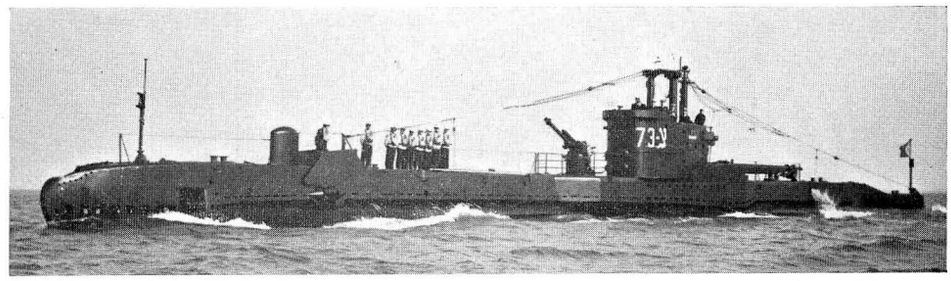
RAHAV (ex-H.M.S. *Sanguine*) **TANIN** (ex-H.M.S. *Springer*)

Name:	*Rahav*	*Tanin*
Builders:	Cammell Laird & Co. Ltd., Birkenhead	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	10 Jan. 1944	8 May 1944
Launched:	15 Feb. 1945	14 May 1945
Completed:	13 May 1945	2 Aug. 1945

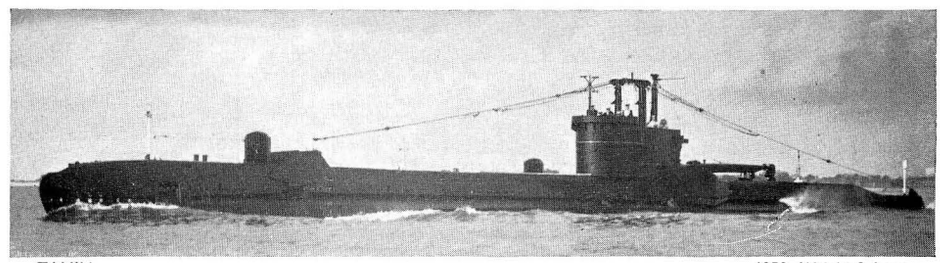
Displacement:	715 tons *standard*, 814 tons *surface*, 1,000 tons *submerged*
Dimensions:	202½ (*pp.*), 217 (*o.a.*) × 23¾ × 10½ (*mean*) feet
Guns:	1—3 inch
Tubes:	6—21 inch
Machinery:	Diesels. B.H.P.: 1,900=14·7 kts. *surface* Electric motors. H.P.: 1,300=9 kts. *submerged*
Oil fuel:	44 to 87 tons
Complement:	40 to 44 officers and men

Notes

Former British submarines of the "S" class purchased by Israel in Oct. 1958 and refitted in Great Britain before delivery to Israel in May 1960 (*Rahav*) and Dec. 1959 (*Tanin*). They are reported to be very handy craft, capable of making a "crash dive" in 30 seconds, and both are fitted with "Snort" mast and sonar domes.



RAHAV (wearing Israeli colours) 1960, *Wright & Logan*



TANIN 1959, *Wright & Logan*

PATROL VESSEL



NOGAH 1955, *Israeli Navy, Official*

1 Ex-U.S. PC Type

NOGAH (ex-*PC* 16)

Displacement:	295 tons *standard* (450 tons *full load*)
Dimensions:	170 (*pp.*), 173⅜ (*o.a.*) × 23 × 7½ (*mean*), 10 (*max.*) feet
Guns:	1—3 inch, 2—20 mm. AA.
A/S weapons:	4 D.C.T.
Oil fuel:	60 tons
Radius:	5,000 miles at 9 kts.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,764=18 kts.
Complement:	70

Notes

Former United States patrol vessel (submarine chaser) of the steel hulled PC type.

MOTOR TORPEDO BOATS



OPHIR 1957, *Giorgio Arra*

Baglietto Type

OPHIR **SHVA** **TARSHISH**

Displacement:	40 tons
Dimensions:	70 × 17 × 5 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Torpedoes:	2—17·7 inch
Machinery	Diesels. Speed 40 kts.

Notes

Motor Torpedo Boats/Gunboats built for the Israeli Navy by Cantieri Baglietto, Varazze, Italy, in 1956-57.

Motor Torpedo Boats—*continued*



T 207 1953, *courtesy Builders*

Meulan Type

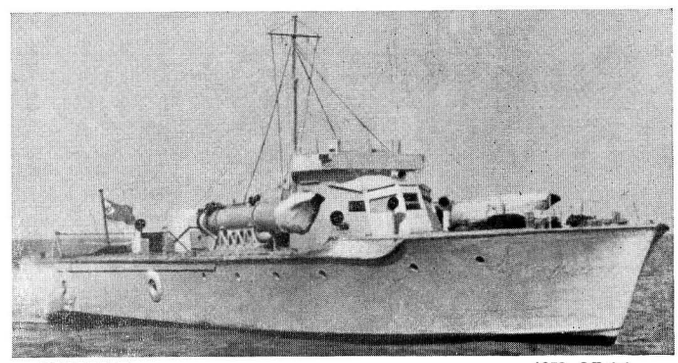
AYAH **DAYA** **PERESS**

BAZ **NETS** **TAHMASS**

Displacement:	62 tons *standard*
Dimensions:	85½ (*o.a.*) × 20⅜ × 5 feet
Guns:	1—40 mm., 4—20 mm. AA.
Torpedoes:	2—17·7 inch
Machinery:	4 Arsenal Marine Petrol Engines. 2 shafts. B.H.P.: 4,600=42 kts.
Radius:	600 miles at 29 kts.
Complement:	14 (1 officer, 13 men)

Notes

Built by Chantiers de Meulan, France. Launched in 1950-52. Pennant numbers: T 200, 202, 203, 206, 207, 208. Photograph of T 208 in the 1953-54 to 1957-58 editions.



VOSPER Type 1952, *Official*

Vosper Type

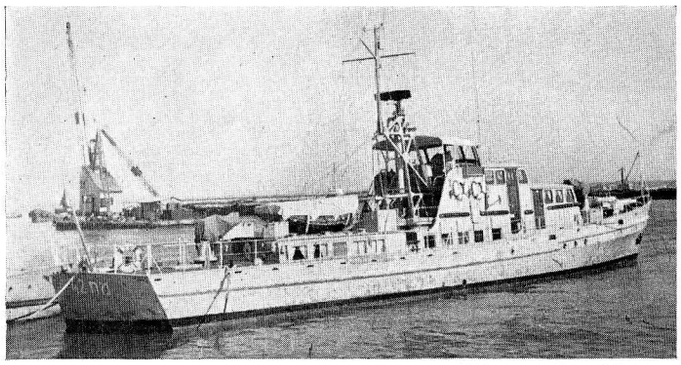
LILITT **SHALDAGG** **TINSHEMETT**

Displacement:	43 tons *standard*
Dimensions:	70 × 19 × 5 feet
Guns:	1—40 mm., 2—20 mm. AA.
Tubes:	2—18 inch
Machinery:	3 Packard engines. B.H.P.: 4,050=40 kts.
Radius:	600 miles at 15 kts.
Complement:	16

Notes

Motor torpedo boats purchased in Great Britain. Built by Vosper, Ltd., Portsmouth, England, in 1942. Pennant Numbers: *T* 209, *T* 210, and *T* 212.

COAST GUARD CUTTERS



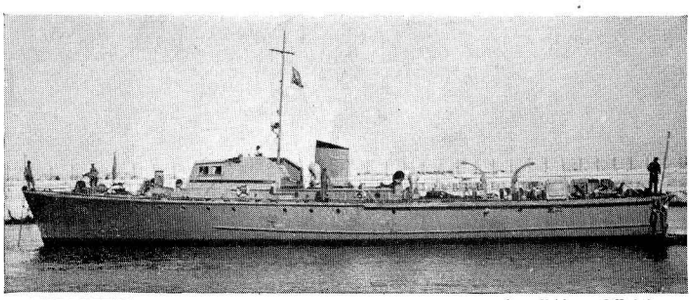
YARDEN — 1958, *Israeli Navy, Official*

Yarkon Echad Type

YARDEN	YARKON ECHAD	
Displacement:	96 tons *standard* (109 tons *full load*)	
Dimensions:	100×20×6 feet	
Machinery:	Diesels. 2 shafts. Speed 22 kts.	
Complement:	16	

Notes
Coastguard cutters. *Yarkon* was built by Yacht & Bootswerft, Burmester Burg, Germany, and launched on 25 July 1956.

MOTOR LAUNCH



HAPORTZIM — *Israeli Navy, Official*

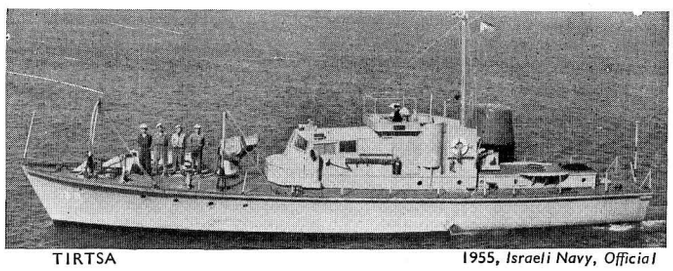
Ex-British Fairmile "B" ML Type

HAPORTZIM (ex-*M* 17)

Displacement:	65 tons *standard* (86 tons *full load*)
Dimensions:	112×18½×5 feet
Guns:	3—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200=19 kts.
Complement:	16

Notes
Former British Fairmile "B" type motor launch. Built in Great Britain in 1943.

SEAWARD PATROL CRAFT



TIRTSA — 1955, *Israeli Navy, Official*

3 Ex-British HDML Type

DROR (ex-*M* 21)	SAAR (ex-*M* 35)	TIRTSA
Displacement:	46 tons *standard* (54 tons *full load*)	
Dimensions:	72 (*o.a.*)×16×5½ feet	
Guns:	1—40 mm., 1—20 mm. AA., 8 D.C.	
A/S weapons:	8 D.C.	
Machinery:	2 diesels. 2 shafts. B.H.P.: 320=12 kts.	
Complement:	12	

Note
Former British harbour (seaward) defence motor launches. Built in Great Britain in 1943.

DEPOT SHIP (*Sloop*)



MATZPEN — *Added* 1959, *Israeli Navy, Official*

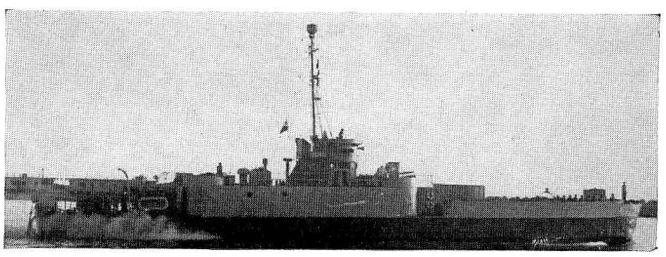
Ex-U.S.C.G Type

MATZPEN (ex-*Ealath*, ex-U.S.C.G.C. *Northland*)

Displacement:	2,150 tons
Dimensions:	216½×39×17 feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Diesel. B.H.P.: 1,200=11 kts.
Complement:	70

Notes
Ex-U.S. Coast Guard Cutter of the sloop type, of exceptionally strong construction with icebreaker bows specially built for the Bering Sea. Built by the Newport News Shipbuilding & Drydock Co. in 1927. Was formerly employed by the Israeli Navy as a training ship.

LANDING CRAFT



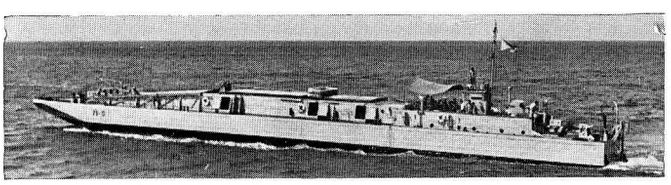
LCI type — 1954, *Israeli Navy, Official*

LCI Type

LCI

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	159×23×5⅝ feet
Machinery:	2 diesels. B.H.P.: 1,320=14·4 kts.

Notes
Former American vessels of the Landing Craft Infantry type.



LCT (6) type — 1956, *Israeli Navy, Official*

LCT (6) Type

LCT

Displacement:	143 tons *standard* (309 tons *full load*)
Dimensions:	120×33×4 feet
Machinery:	3 diesels. B.H.P.: 675=10 kts.

Notes
Reported to be a mixed flotilla of ex-American tank landing craft, including ex-U.S.S. 640 and ex-U.S.S. 673, and ex-British vessels of the LCT (6) type.

LCM Type

LCM

Displacement:	22 tons *standard* (60 tons *full load*)
Dimensions:	50×14×3¼ feet
Machinery	2 diesels. B.H.P.: 450=11 kts.

Notes
Former American vessels of the Landing Craft Mechanised type.

ITALY

Administration

Chief of Naval Staff:
Ammiraglio di Squadra Corso Pecori Giraldi.

Deputy Chief of Naval Staff:
Ammiraglio di Squadra Ernesto Giuriati.

Commander-in-Chief Naval Forces:
Ammiraglio di Squadra Francesco Mimbelli.

Naval Attache in London:
Capt. Emanuele Filiberto Perucca Orfei, It. N.

New Construction Programmes

1959-60: A third guided missile escort cruiser of the " Doria " class
2 frigates of improved " Centauro " type
4 corvettes of improved " Airone " type
2 submarines of " Bagnolini " type
A nuclear powered submarine
4 mortar gun/torpedo boats

1958-59: 1 guided missile destroyer of " Intrepido " type
5 motor torpedo boats

1957-58: The second part of the new construction programme includes two light cruisers of the " Doria " type which will be armed with guided missiles.

1956-57: 1 guided missile destroyer of " Intrepido " type
4 frigates of " Bergamini " type

Personnel

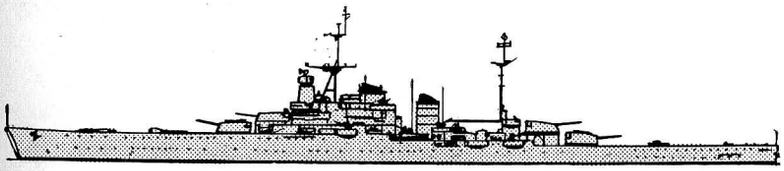
1960: 41,000 officers and ratings

Mercantile Marine

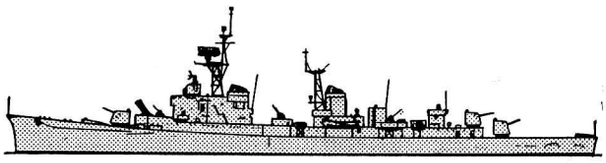
Lloyd's Register of Shipping:
1,325 vessels of 5,118,764 tons *gross*

Silhouettes

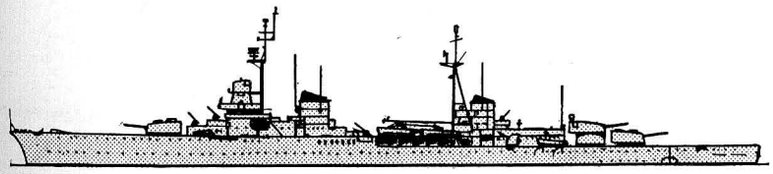
Scale: 150 ft. = 1 inch



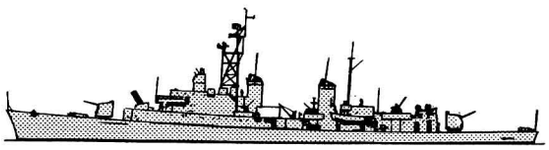
LUIGI DI SAVOIA DUCA DEGLI ABRUZZI



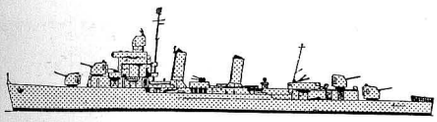
SAN GIORGIO, SAN MARCO



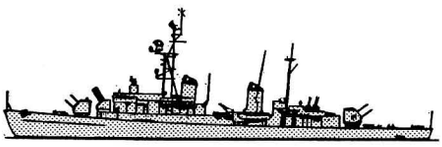
RAIMONDO MONTECUCCOLI



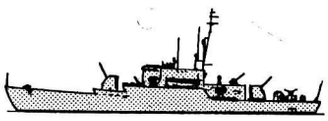
IMPETUOSO, INDOMITO



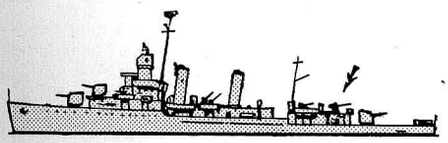
ARTIGLIERE



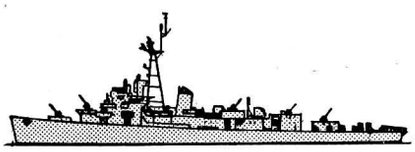
CANOPO *Class*



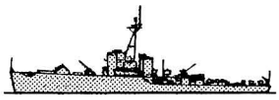
AIRONE *Class*



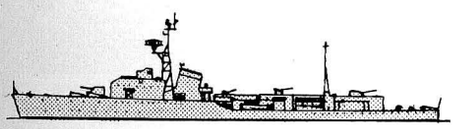
AVIERE



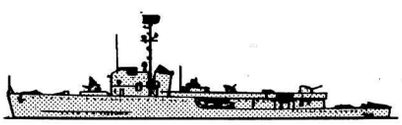
ALTAIR *Class*



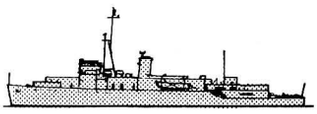
APE *Class*



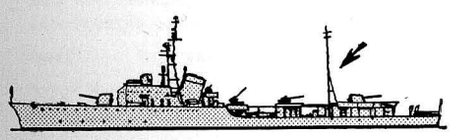
CARABINIERE



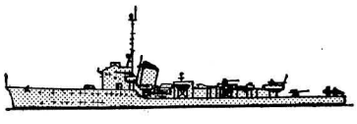
ORIONE, ORSA



ALABARDA



GRECALE



LIBRA, SAGITTARIO



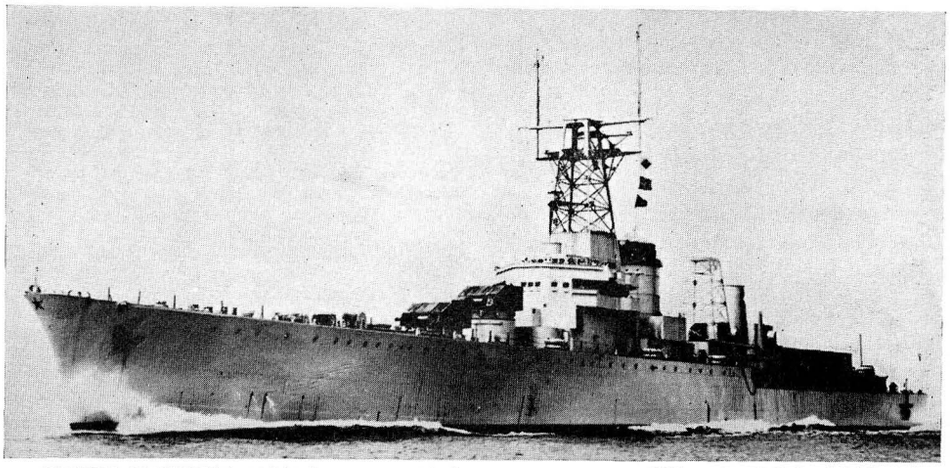
DAINO *Class*

GUIDED MISSILE LIGHT CRUISER (CLG)

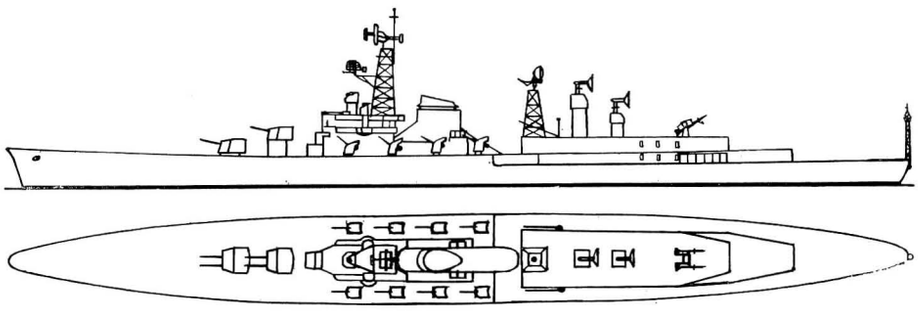
1 Converted "Garibaldi" Class

GIUSEPPE GARIBALDI

Pennant No.:	C 551
Builders:	C.R. dell' Adriatico
Laid down:	Dec. 1933
Launched:	21 Apr. 1936
Completed:	Dec. 1937
Converted:	1957-1960
Displacement:	9,802 tons *standard* (11,600 tons *full load*)
Dimensions:	Length: 593 (*w.l.*), 613½ (*o.a.*) feet Beam: 61⅝ feet Draught: 17 (*mean*), 29 (*max.*) feet
Guns:	4—5·3 inch, 45 cal. d.p. 8—3 inch, 62 cal. AA. (see *Gunnery Notes*)
Guided missiles:	"Terrier" battery aft. 1 launcher for surface-to-air weapons (twin mounting)
Armour:	4½" belt, 2¼" deck, 4" turrets, 5" conning tower
Aircraft:	Helicopters
Machinery:	Parsons geared turbines. 2 shafts S.H.P.: 85,000=30 kts.
Boilers:	6 of 3-drum type
Oil fuel:	1,700 tons
Radius:	4,500 miles at 20 kts.
Complement:	650



GIUSEPPE GARIBALDI (on trials after reconstruction) 1960, *courtesy Dott. Ing. Luigi Accorsi*



General Notes

Originally similar to *Luigi di Savoia Duca degli Abruzzi*, but she is undergoing conversion into a guided missile cruiser. The appearance of the ship has been completely altered with a single large trunked funnel and lattice masts. She is expected to be commissioned for operational service in 1961 or 1962.

Gunnery Notes

The new armament will include four 5·3 inch dual purpose guns of a new fully automatic model disposed in two twin turrets forward, and an anti-aircraft battery of eight 3-inch fully automatic weapons, also of a new pattern, built by O.T.O. La Spezia, disposed in single turrets, four on each side amidships abreast the funnel and the bridge, with a rate of fire of 70 rounds per minute.

Electrical Notes

The electronic and electrical equipment will be of a new pattern. The generating plant will develop power at 440 volts at 60 cycles per second. This will be the prototype installation for the Italian Navy

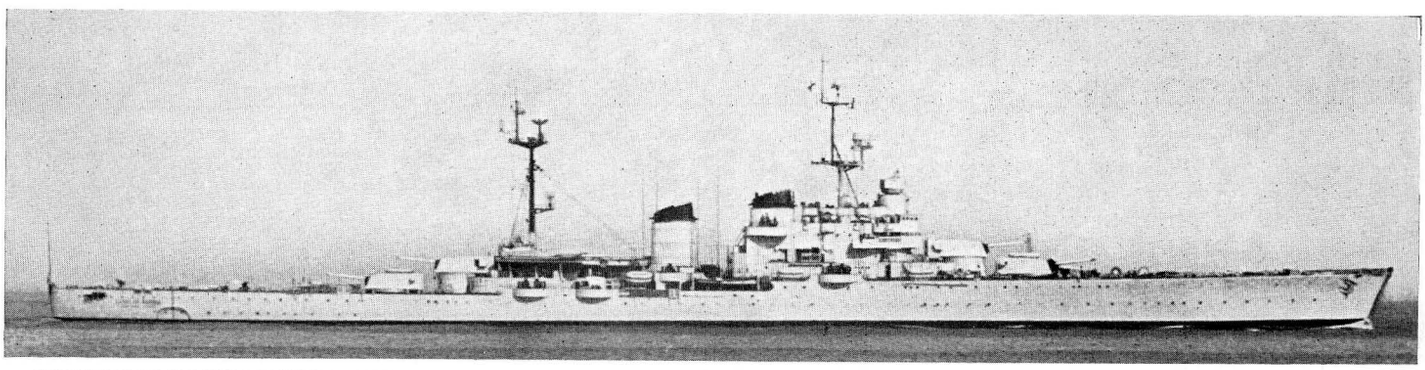
Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch. (A larger official artist's starboard elevation drawing appears in the 1958-59 and 1959-60 editions.)

Engineering Notes

On her original trials this ship developed 104,030 S.H.P. and attained a speed of 33·6 kts. During her reconstruction her machinery has been entirely renewed.

LIGHT CRUISER (CL)

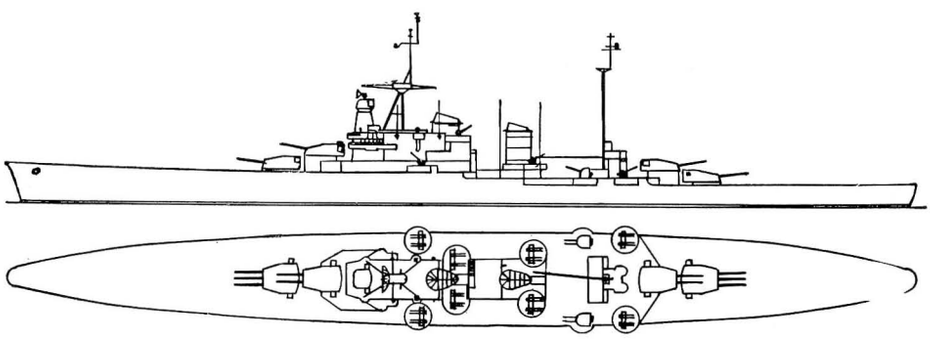


LUIGI DI SAVOIA DUCA DEGLI ABRUZZI 1958, *Captain Aldo Fraccaroli*

1 "Garibaldi" Class

LUIGI DI SAVOIA DUCA DEGLI ABRUZZI

Pennant No.:	C 550
Builders:	Odero-Terni-Orlando
Laid down:	June 1934
Launched:	21 Apr. 1936
Completed:	June 1937
Displacement:	9,959 tons *standard* (11,776 tons *full load*)
Dimensions:	Length: 593 (*w.l.*), 613¾ (*o.a.*) feet. Beam: 61⅜ feet. Draught: 17 feet (*mean*), 29 feet (*max.*)
Guns:	10—6 inch, 55 cal., 4—3·9 inch, 47 cal., 24—40 mm. 56 cal. Bofors AA.
Armour:	4½"-1½" vertical side, 2¼" deck, 4" turrets, 5" C.T.
Machinery:	Parsons geared turbines. 2 shafts. 85,000=29 kts. actual sea speed
Boilers:	6 of 3-drum type
Oil fuel:	1,680 tons
Radius:	3,455 miles at 20 kts.
Complement:	600



General Notes

This ship represents the ultimate expansion of the original "Condottieri" design. She was equipped for minelaying. She is expected to be disposed of in the near future. Originally the sister ship of *Giuseppe Garibaldi* (see above).

Reconstruction Notes

This cruiser was rebuilt under the new five-year naval programme. She now has a very different conning tower with small tripod mast and radar aerials, mainmast shortened to the top on which are radar sets one of which has large antennae similar to American type. The ship completed 27 months refit at La Spezia Navy Yard in June 1953.

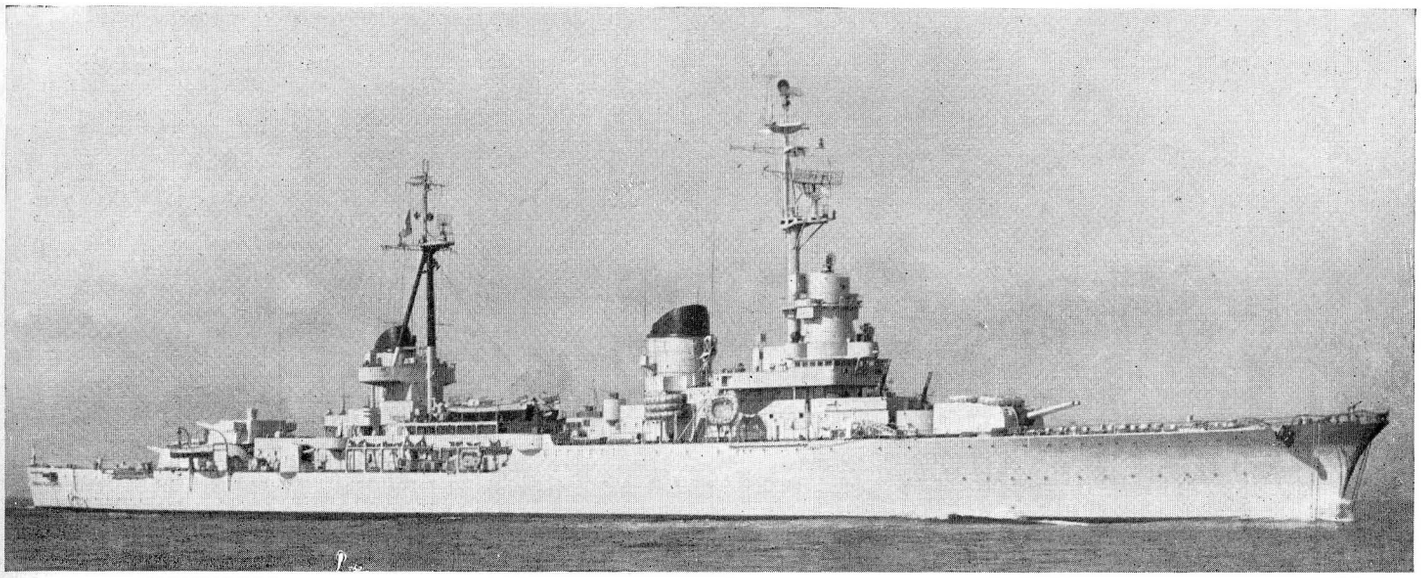
Engineering Notes

The maximum speed is now not more than 29 kts.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch. The 40 mm. guns abreast the funnels are actually twin and not quadruple mountings.

Light Cruisers—*continued*



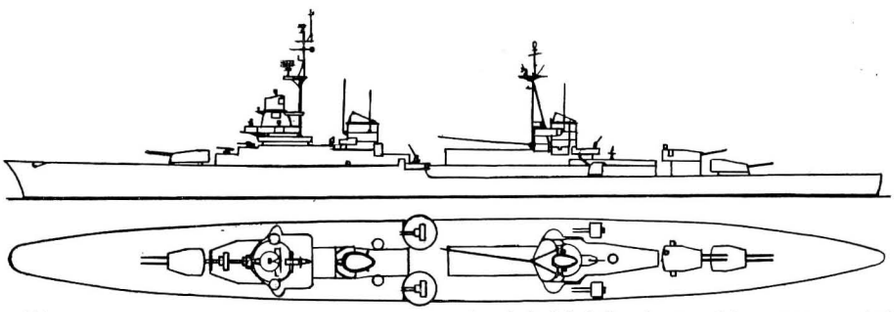
RAIMONDO MONTECUCCOLI

1957, *Italian Navy, Official*

1 "Condottieri" Class

RAIMONDO MONTECUCCOLI

Pennant No:	C 552
Builde-s:	Ansaldo, Sestri Ponente
Laid down:	Oct. 1931
Launched:	2 Aug. 1934
Completed:	July 1935
Displacement:	7,675 tons *standard* (8,955 tons *full load*)
Dimensions:	Length: 575¼ (*pp.*), 577 (*w.l.*), 597¾ (*o.a.*) feet. Beam: 54½ feet. Draught: 14¾ feet (*mean*) 29 feet, (*max.*)
Guns:	6—6 inch, 53 cal., 4—3·9 inch, 47 cal. AA., 8—40 mm., 56 cal. AA., 4—20 mm. 70 cal. AA.
Mines:	80. Can carry 66 to 112 according to size and type
Armour:	Thin plating only on turrets and decks but side armour decidedly thicker at waterline
Machinery:	Belluzzo geared turbines. 2 shafts. S.H.P.: 75,000=29 kts. (see notes)
Boilers:	4 Yarrow, of 3-drum type (2 of original 6 boilers removed)
Oil fuel:	1,180 tons
Radius:	2,800 miles at 20 kts.
Complement:	522



General Notes

Raimondo Montecuccoli was begun under the 1930 Programme, but construction was held up pending alterations to plans. Equipped for minelaying. Used as training ship for midshipmen since the summer of 1949.

Torpedo Notes

Her original 4—21 inch torpedo tubes have been removed.

Engineering Notes

On her initial trials she made 39·5 kts. without stores or ammunition on board. Her original rating was 106,000 S.H.P. when she had six boilers, but two of these were removed when she was converted.

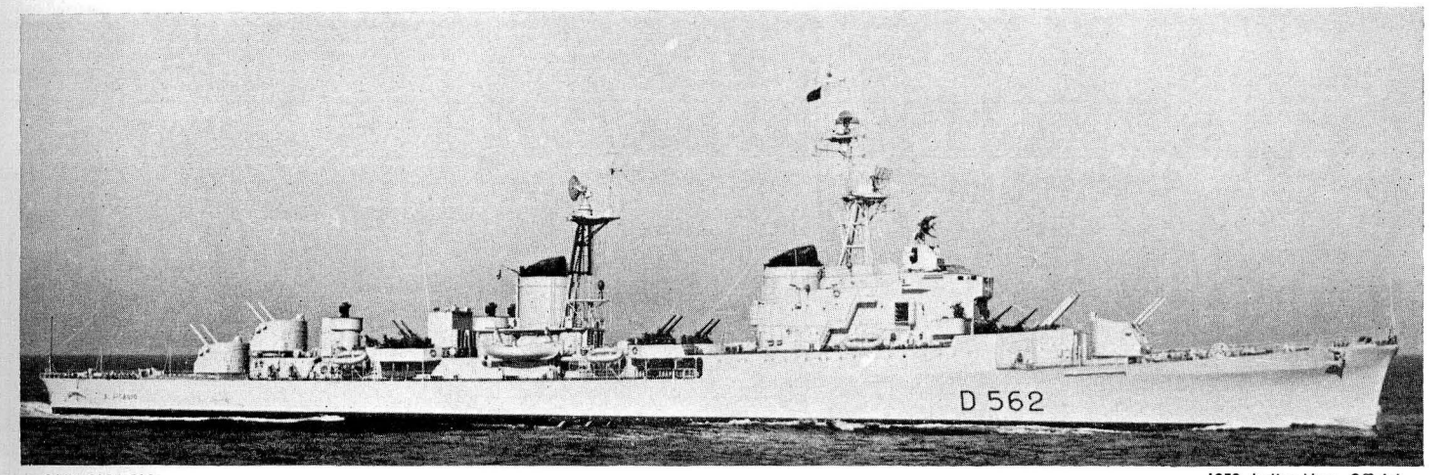
Gunnery Notes

After conversion she retains only six of her original 8—6 inch guns and only 4 of her 3·9 inch guns. "B" turret, and "Q" 3·9 inch centre line mounting were removed, Now has an AA. radar set on mainmast and 8—40 mm. Bofors AA. guns added.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

LEADERS (ex-Light Cruisers) DL



SAN GIORGIO

1959, *Italian Navy, Official*

2 "San Giorgio" Class
(officially rated as *Cacciatorpediniere Conduttori*)

SAN GIORGIO (ex-*Pompeo Magno*

SAN MARCO (ex-*Giulio Germanico*)

Name:	*San Giorgio*	*San Marco*
Pennant No.:	D 562	D 563
Builders:	Cantieri N. Riuniti, Ancona	Navalmeccanica Castellammare di Stabia
Laid down:	23 Sep. 1939	11 May 1940
Launched:	28 Aug. 1941	20 July 1941
Completed:	24 June 1943	19 Jan. 1956

Displacement:	3,950 tons *standard* (5,600 tons *full load*) revised figures
Dimensions:	455½ (*w.l.*), 466½ (*o.a.*) × 47¼ × 13¾ (*mean*), 16¾ (*max.*) feet
Guns:	6—5 inch, 38 cal.; 20—40 mm., 56 cal. AA.
A/S weapons:	1 three-barrelled A/S automatic mortar forward, 4 D.C.T., 1 D.C. rack
Machinery:	Geared steam turbines. 2 shafts. S.H.P.: 100,000=38 kts. Sea speed 36 kts.
Boilers:	4 of 3-drum type
Oil fuel:	1,400 tons
Radius:	3,000 miles at 25 kts.
Complement:	430

General Notes

These two vessels were originally built as light cruisers of the Roman Captains (*Capitani Romani*) class. *Giulio Germanico* was sunk by the Germans in Sep. 1943 before completion, refloated in 1947. Both ships converted into fleet destroyers by Cantieri del Tirreno Genova, and Navalmeccanica Castellammare di Stabia. Conversion completed in the autumn of 1955. *San Giorgio* recommissioned 1 July 1955, *San Marco* 20 Feb. 1956. Re-rated as *Esploratori* (scouts) in 1957, and as *Cacciatorpediniere Conduttori* (leaders) in 1958.

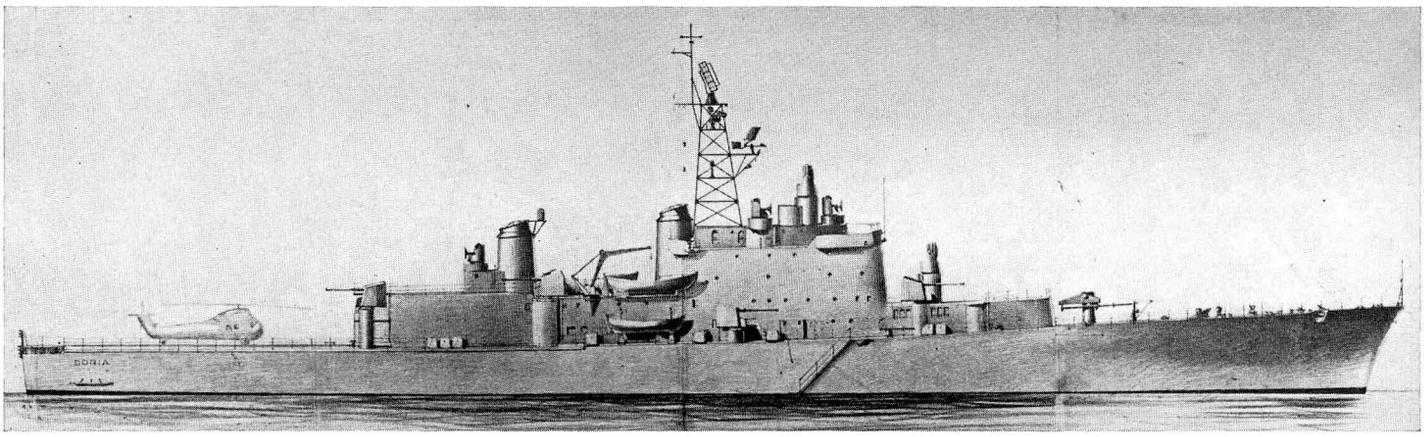
Engineering Notes

During sea trials in 1955 these ships reached 39 and 41 knots, respectively.

Class Notes

Sister ships of *Chateaurenault* (ex-*Attilio Regolo*) and *Guichen* (ex-*Scipione Africano*) converted into *Escorteurs d'Escadre* (squadron escorts) for the French Navy.

GUIDED MISSILE ESCORT CRUISERS (DLG)



" Doria " Class (revised official drawing)

1959, *Italian Navy, Official*

3 New Construction. " Doria " Class
(officially rated as *Incrociatori di Scorta*)

ANDREA DORIA — **CAIO DUILIO** — **ENRICO DANDOLO**

Displacement:	6,000 tons (*standard*)
Dimensions:	Length: 472½ (*pp.*), 483¼ (*o.a.*) feet. Beam: 56½ feet. Draught: 16 feet
Guns:	8—3 inch, 62 cal. AA. (see *Gunnery Notes*)
Guided missiles:	" Terrier " battery forward. 1 launcher (twin mounting)
Aircraft:	3 heavy A/S helicopters
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=30 kts. (designed speed)
Boilers:	4 Foster-Wheeler
Complement:	450

General Notes

Escort cruisers or destroyer leaders of an entirely new design, extraordinarily beamy in relation to their length.

Andrea Doria was laid down on 11 May 1958 by Cantieri del Tirreno, Riva Trigoso, and *Caio Duilio* was laid down on 16 May 1958 by Navalmeccanica, Castellammare di Stabia. *Enrico Dandolo* will be laid down under the 1959-60 new construction programme.

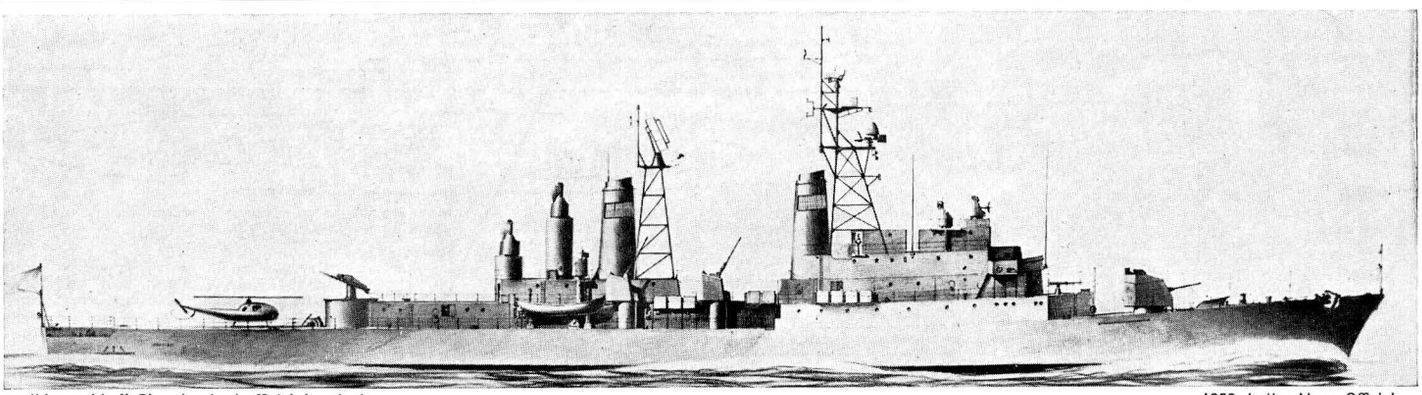
Gunnery Notes

The anti-aircraft battery will include eight 3-inch fully automatic weapons of a new pattern, disposed in single turrets, four on each side amidships abreast the funnels and the bridge. They have a rate of fire of 70 rounds per minute.

Helicopter Notes

Helicopters operate from a large platform aft measuring 98½ feet by 52½ feet (30×16 metres).

GUIDED MISSILE DESTROYERS (DDG)



" Intrepido " Class (revised official drawing)

1959, *Italian Navy, Official*

2 " Intrepido " Class
(New Construction)

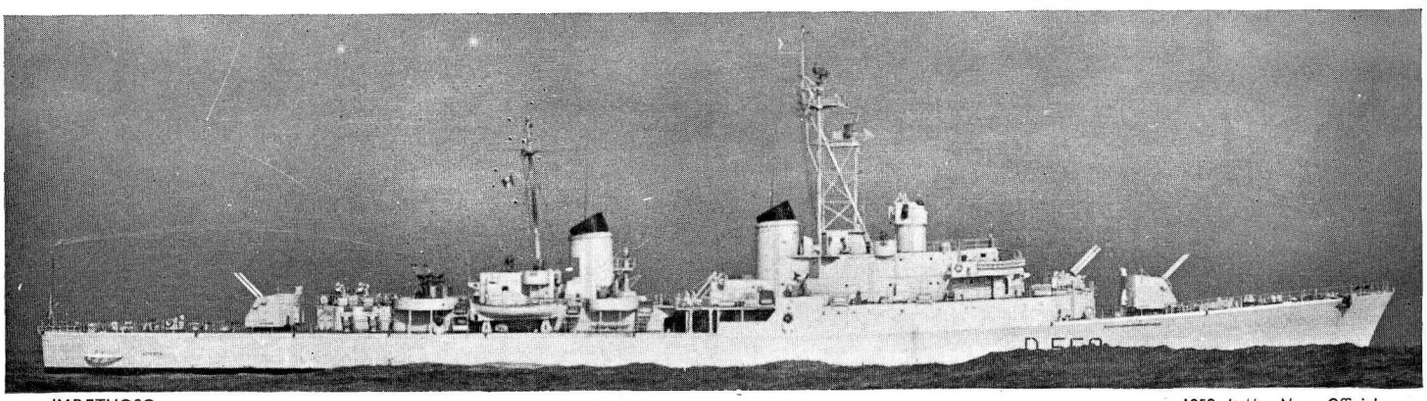
	IMPAVIDO	**INTREPIDO**
Name:	*Impavido*	*Intrepido*
Pennant No:	D 560	D 561
Ordered:	Jan. 1957	1959
Laid down:	1957	16 May 1959

Displacement:	3,201 tons *standard* (3,941 tons *full load*) revised figures
Dimensions:	429½×44⅝×14¾ feet
Guns:	2—5 inch, 38 cal. AA. (forward); 4—3 inch, 62 cal. AA.
Guided missiles:	Single mounting for " Tartar " surface-to-air weapons (aft)
Aircraft:	1 or 2 A/S helicopters
Tubes:	2 triple 21 inch, for A/S torpedoes
A/S Weapons:	4 depth charge throwers
Machinery:	Geared turbines. 2 shafts. S.H.P. 70,000=35 kts.
Boilers:	4
Complement:	344

Notes

The armament includes the new Italian designed and built single-barrelled A/S howitzer and missiles aft. Otherwise these ships are basically similar to the " Impetuoso " type of which they are later versions; but the machinery will be of a different type. Will probably be classed as *Cacciatorpediniere Conduttori* (leaders) on completion.

DESTROYERS (DD)



IMPETUOSO

1959, *Italian Navy*, *Official*

2 " Impetuoso " Class
(officially rated as *Cacciatorpediniere*)

Name:	**IMPETUOSO** *Impetuoso*	**INDOMITO** *Indomito*
Pennant No.:	D 558	D 559
Builders:	Cantieri del Tirreno, Riva Trigoso	Ansaldo, Leghorn (formerly O.T.O. Yard)
Ordered:	Nov. 1950	Nov. 1950
Laid down:	7 May 1952	24 Apr. 1952
Launched:	16 Sep. 1956	7 Aug. 1955
Completed:	25 Jan. 1958	23 Feb. 1958

Displacement:	2,775 tons *standard* (3,800 tons *full load*)
Dimensions:	418⅔ (*o.a.*), 404⅚ (*pp.*)×43⅓×15½ feet
Guns:	4—5 inch, 38 cal. AA., 16—40 mm., 56 cal. Bofors AA.
Tubes:	2—21 inch A/S type
A/S weapons:	Triple long range A/S weapon forward. 4 depth charge throwers aft.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=34 kts. (see *Engineering Notes*)
Boilers:	4 Foster-Wheeler
Complement:	350

General Notes

Italy's first destroyers to be constructed since the Second World War. Special anti-submarine and heavy anti-aircraft armament. Officially rated as *Cacciatorpediniere* or torpedo boat destroyers.

Engineering Notes

On their sea trials these ships attained a speed of 35 kts. at full load (war displacement).

A/S Weapon Notes

The triple long range A/S weapon has a range o fmore than 1,600 yards.

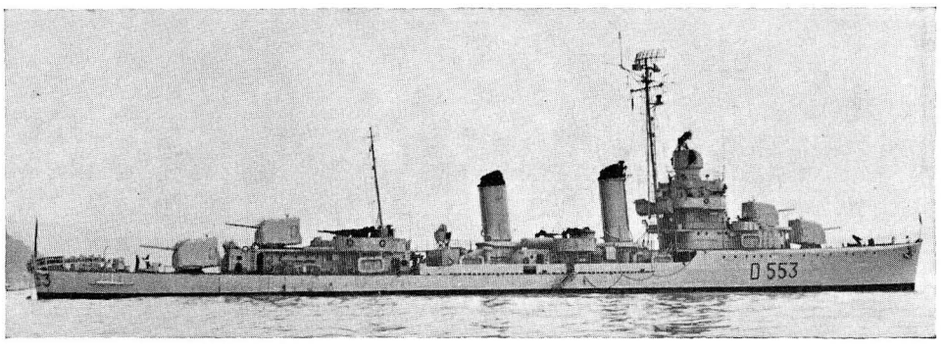
Destroyers—*continued*

2 Ex-U.S. DD Type. " Artigliere " Class
(officially rated as *Cacciatorpediniere*)

ARTIGLIERE (ex-U.S.S. *Woodworth*, *DD* 460)

Displacement:	1,620 tons *standard* (2,575 tons *full load*)
Dimensions:	348½ (*o.a*) × 35½ × 18 (*max.*) feet
Guns:	4—5 inch, 38 cal., 12—40mm. 56 cal., 6—20 mm., 70 cal.
A/S weapons:	4 D.C. throwers, 2 D.C. racks
Machinery:	Geared turbines. 2 shafts. S.H.P.: 50,000=36·5 kts. designed (sea speed 31 kts.)
Boilers:	4 high pressure
Oil fuel:	600 tons
Radius:	6,000 miles at 12 kts.
Complement:	200 (peace), 250 (war)

Notes
Formerly of United States " Mayo " class destroyers (DD).



ARTIGLIERE 1959, *Giorgio Arra*

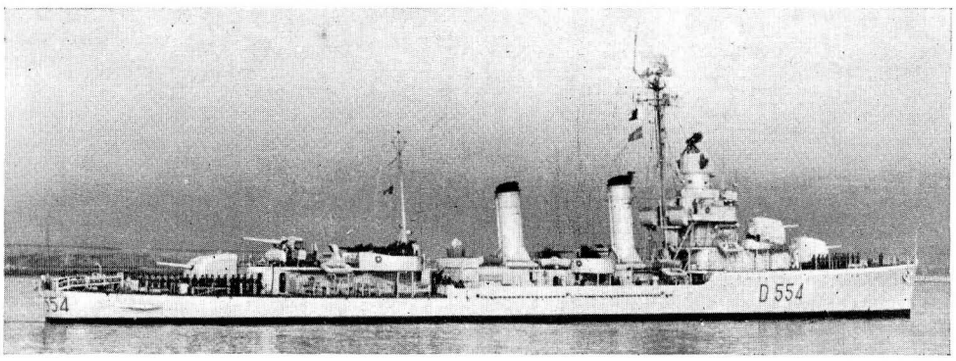
AVIERE (ex-U.S.S. *Nicholson*, *DD* 442)

Displacement:	1,700 tons *standard* (2,580 tons *full load*)
Dimensions:	341 (*w.l.*),348½(*o.a.*) × 36 × 10 (*light*), 18(*max.*) feet
Guns:	4—5 inch, 38 cal, 12—40 mm. Bofors, 6—20 mm. Oerlikon
A/S weapons:	4 D.C. throwers, 2 D.C. racks
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 50,000=37·4 kts. designed (sea speed 31 kts.)
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	6,000 miles at 12 kts.
Complement:	200 (*peace*), 250 (*war*)

Notes
Formerly of the United States "Gleaves" class destroyers DD).

	Artigliere	*Aviere*
Name:		
Pennant No.:	D 553	D 554
Builders:	Bethlehem, San Francisco	Boston Navy Yard
Laid down:	13 Jan. 1941	1 Nov. 1939
Launched:	29 Nov. 1941	31 May 1940
Completed:	30 Apr. 1942	3 June 1941

General Notes
Both transferred from the United States Navy under the Mutual Defense Assistance Program and commissioned 25 May 1951. Officially turned over to Italy, 11 June, 1951. The 5—21 inch torpedo tubes were removed.



AVIERE 1960, *Giorgio Arra*

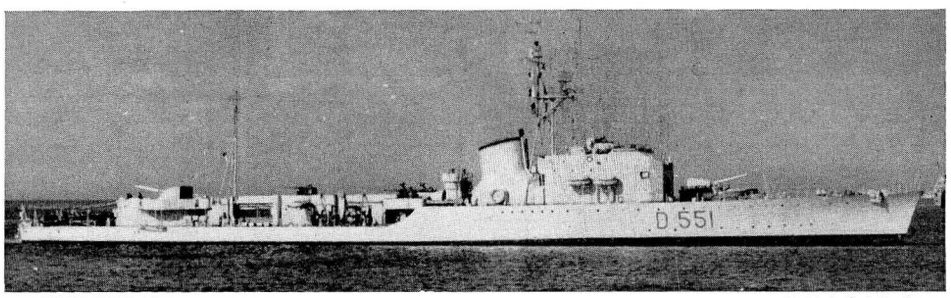
Appearance Notes
Artigliere has flat sided funnels and shielded " X " 5 inch mounting but *Aviere* has round funnels and no shield to " X " gun, and has extra tier on bridge, see photographs.

FAST ANTI-SUBMARINE ESCORTS (Converted Destroyers)

1 " Granatiere " Class
(officially rated as *Fregate*)

CARABINIERE

Pennant No.:	D 551
Builders:	Cantiere del Tirreno, Riva Trigoso
Laid down:	Feb. 1937
Launched:	24 July 1938
Completed:	Dec. 1939
Displacement:	1,900 tons *standrd* (2,530 *tons full load*)
Dimensions:	339 (*w.l.*), 350 (*o.a.*) × 33½ × 12 feet (*mean*)
Guns:	3—4·7 inch, 50 cal., 6—40 mm. AA., 56 cal.
A/S weapons:	2 D.C. throwers, 2 D.C. racks
Machinery:	2 sets Belluzzo geared turbines. 2 shafts. S.H.P.: 48,000=39 kts. designed (30 kts. sea speed)
Boilers:	3, of 3-drum type
Oil fuel:	545 tons
Radius:	1,800 miles at 20 kts.
Complement:	189 (peace), 214 (war)



CARABINIERE 1957, *A. & J. Pavia*

Notes
Destroyer modernised and converted to Submarine Killer with new type hedgehog forward for trials 1953-54. Her original 3—21 inch (tripled) torpedo tubes were removed. She is at present being used as an experimental ship and therefore her armament is subject to continuous changes.

Recent Disposal
Sister ship *Granatiere* was removed from the effective list in 1958.

1 " Grecale " Class
(Converted into Command Ship)

GRECALE

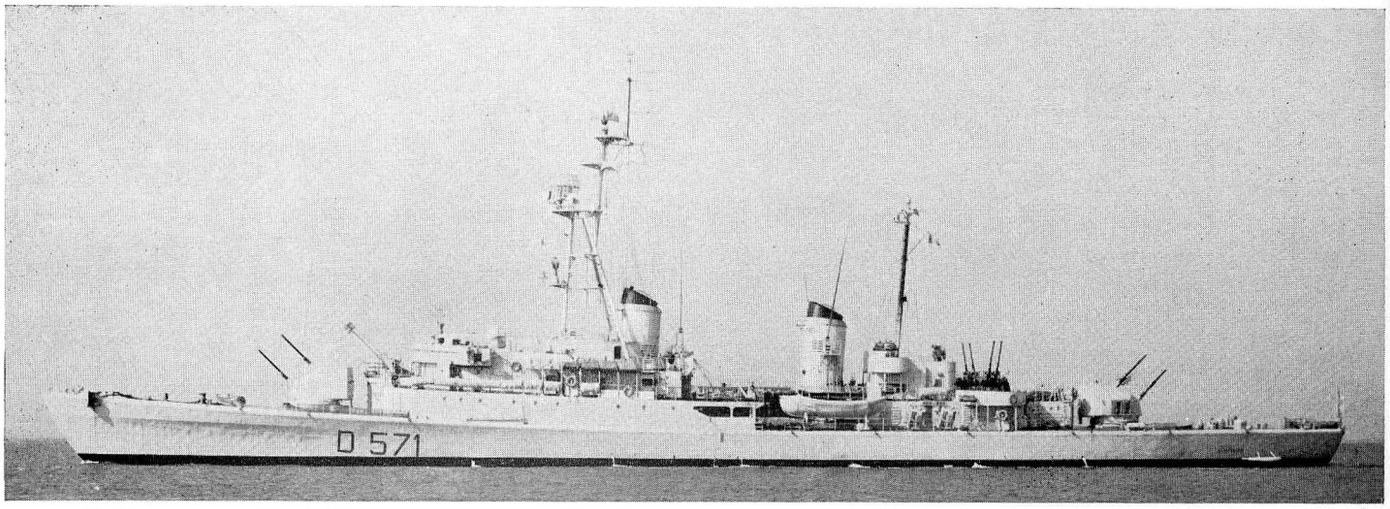
Pennant No.:	D 552
Builders:	C. N. Riuniti, Ancona
Laid down:	Apr., 1931
Launched:	17 June, 1934
Completed:	Nov., 1934
Displacement:	1,750 tons *standard* (2,400 tons *full load*)
Dimensions:	333½ (*w.l.*), 350 (*o.a.*) × 33½ × 11 feet
Guns:	2—40 mm. 56 cal.
A/S weapons:	2 D.C. throwers, 2 D.C. racks
Mines:	Can carry 36 to 64
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 44,000=38 kts. designed (30 kts. sea speed)
Boilers:	3, of 3-drum type
Oil fuel:	520 tons
Radius:	1,725 miles at 20 kts.
Complement:	153 (peace), 200 (war)

Notes
Former destroyer. Built under the 1930 Programme. Fitted for minelaying. Reconstructed in 1949 with new lattice mast, several new radar sets, and British type navigating bridge, and re-converted to an anti-submarine escort in 1952-53. Her original 6—21 inch torpedo tubes were removed. She was converted in 1959-60 to a command ship, being equipped with CIC and communications apparatus suitable for carrying out her new task as flagship of the Commander-in-Chief of the Fleet.



GRECALE (as converted to command ship) 1960, *courtesy Ing. Augusto Nani*.

FRIGATES (Destroyer Escort Type)



CENTAURO

1958 *Italian Navy, Official*

2 Improved "Centauro" Class

Notes

It was officially stated in 1960 that two units of an improved "Centauro" class will be ordered soon under the 1959-60 new construction programme. They will have the same displacement and the same main characteristics but their engines will develop 25,000 S.H.P., equal to 28 kts.

4 "Centauro" Class
(officially rated as *Fregate*)

CANOPO (ex-*DE* 1021) **CENTAURO**
CASTORE (ex-*DE* 1021) **CIGNO** (ex-*DE* 1020)

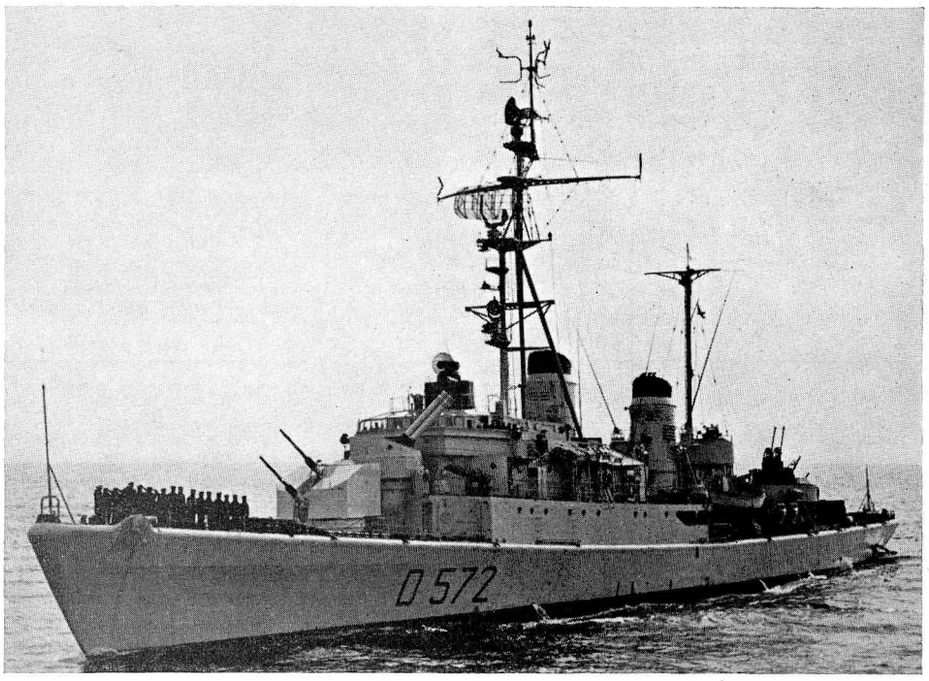
Displacement:	1,680 tons *standard* (2,120 tons *full load*)
Dimensions:	317⅔ (*pp.*), 339¼ (*o.a.*) × 38 × 11½ feet
Guns:	4—3 inch, 62 cal. AA.; 4—40 mm. 70 cal. Bofors AA.
Tubes:	2—21 inch fixed torpedo launchers
A/S weapons:	1 triple barrelled automatic BAS mortar forward; 4 "Menon" type side depth charge launchers, 2 each side; 1 stern D.C.T.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 22,000=25 kts.
Boilers:	2 Foster Wheeler
Oil Fuel:	400 tons
Complement:	200

General Notes

Special A/S and medium AA. armament. *Cigno* and *Castore* were built to Italian plans and specifications under the United States off-shore programme for the Italian Navy. All four ships are fitted with United States sonar gear. Although officially rated as frigates they have D pennant Nos.

Pennant No.	*Name*	*Builders*
D 570	*Canopo*	Cantieri Navali di Taranto
D 571	*Centauro*	Ansaldo, Leghorn
D 572	*Cigno*	Cantieri Navali di Taranto
D 573	*Castore*	Cantieri Navali di Taranto

Name	*Laid down*	*Launched*	*Completed*
Canopo	15 May 1952	20 Feb. 1955	1 Apr. 1958
Centauro	31 May 1952	4 Apr. 1954	5 May 1957
Cigno	10 Feb. 1954	20 Mar. 1955	7 Mar. 1957
Castore	14 Mar. 1955	8 July 1956	14 July 1957



CIGNO

1959, *Captain Aldo Fraccaroli*

Gunnery Notes

The 3 inch guns are in twin gunhouses of a new type with the two barrels in the vertical plane, one superfiring over the other. The new two-barrelled 76/62 gun is Italian designed and built by Ansaldo. Its rate of fire is 80 rounds per minute with 3,200 feet per second muzzle velocity.

FRIGATES (*Fregate*)

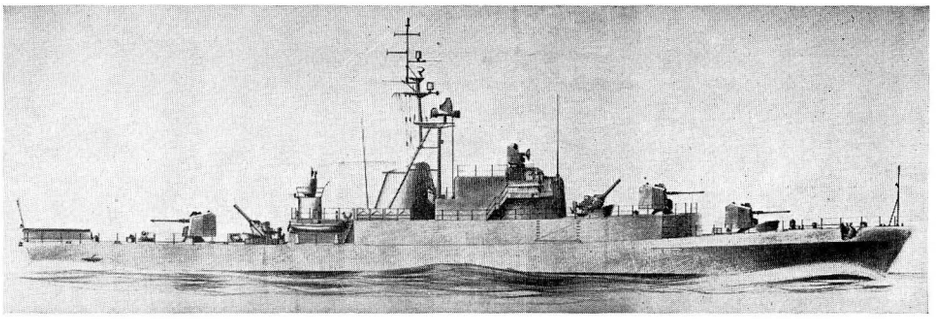
4 New Construction
"Bergamini" Class

CARLO BERGAMINI **LUIGI RIZZO**
CARLO MARGOTTINI **VIRGILIO FASAN**

Displacement:	1,410 tons *standard* (1,800 tons *full load*)
Dimensions:	298½ (*w.l.*), 308¼ (*o.a.*) × 37¼ × 10½ feet
Guns:	3—3 inch, 62 cal. (single, fully automatic)
A/S weapons:	1 single-barrelled automatic long range depth charge mortar
Aircraft:	1 light A/S helicopter
Machinery:	4 Tosi diesel motors. 2 shafts. B.H.P.: 16,000=26·5 kts. (sea speed 25 kts.)
Radius:	4,500 miles at 16 kts

General Notes

Light frigates of a new type with Tosi diesels instead of steam propulsion. Originally they were officially rated as *Corvette Veloci tipo* 2. (Fast Corvettes, "CV 2" Type). Fitted with Denny-Brown stabilisers. *Carlo Bergamini* was originally to have been built by Cantieri Navali di Taranto; but the order was cancelled and she was laid down at Monfalcone, C.R.D.A. di Trieste Yard in May 1959. *Carlo Margottini* and *Luigi Rizzo* were both laid down on 26 May 1957 by Navalmeccanica, Castellammare; *Luigi Rizzo* was launched on 6 Mar. 1960 and *Carlo Margottini* was launched on 12 June 1960 and *Viriogil Fasan* was laid down on 6 Mar. 1960 at Castellammare.



"Bergamini" Class (revised official drawing)

1959, *Italian Navy, Official*

Anti-Submarine Notes

The new single-barrelled depth charge mortars will have a range of over 1,000 yards.

Helicopter Notes

It was officially stated that 1 helicopter on the stern platform is projected.

Design Notes

The plans for these ships have not been finally decided, and there may be further amendments. The present projection provides for an orthodox tripod mast instead of the former truncated conical mast (see photo of official drawing in the 1958-59 edition) and the original quadrupled lattice mast (see photo of first model in 1957-58 edition) and a squat truncated conical funnel.

Frigates—*continued*

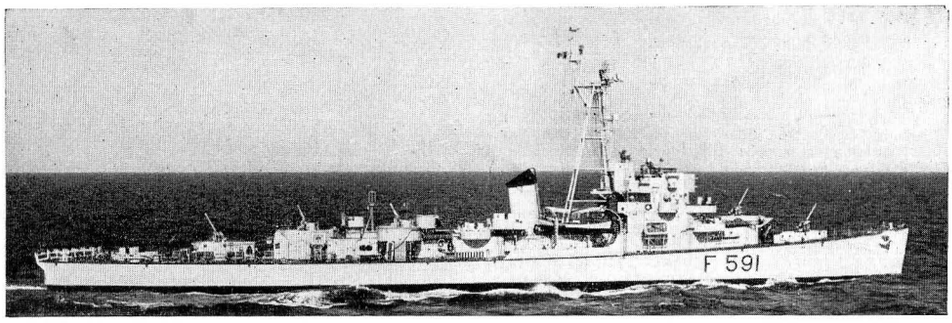
3 Ex-U.S. DE Type. "Altair" Class (officially rated as *Fregate*)

ALDEBARAN (ex-U.S.S. *Thornhill*, *DE* 195)
ALTAIR (ex-U.S.S. *Gandy*, *DE* 764)
ANDROMEDA (ex-U.S.S. *Wesson*, *DE* 184)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36 × 12 (*max.*) feet
Guns:	3—3 inch, 50 cal., 6—40 mm. Bofors AA., 18—20 mm. AA.
A/S weapons:	1 Hedgehog, 8 D.C.T., 2 D.C. racks
Machinery:	General Motors diesels. Electric drive. 2 shafts. B.H.P.: 6,000=21 kts. designed (17·5 kts. sea speed)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	160

Pennant No.	*Name*	*Builders*
F 590	*Aldebaran*	Federal S.B. & D.D. Co., P. Newark
F 591	*Altair*	Tampa S.B. Co.
F 592	*Andromeda*	Federal S.B. & D.D. Co., P. Newark

Name	*Laid down*	*Launched*	*Completed*
Aldebaran	7 Oct. 1943	30 Dec. 1943	1 Feb. 1944
Altair	1 Mar. 1943	12 Dec. 1943	7 Feb. 1944
Andromeda	29 July 1943	17 Oct. 1943	11 Nov. 1943



ALTAIR — 1956, *Lieut. Aldo Fraccaroli*

General Notes
Ex-U.S. destroyer escorts of the "Bostwick" class ceded by the United States under the Mutual Defense Assistance Program. Transferred 10 Jan. 1951.

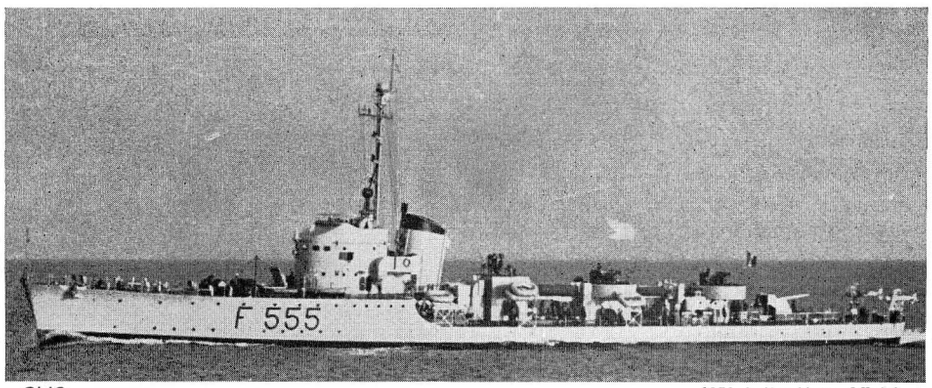
Masting Notes
In 1956 a new pentapod foremast was stepped in all three ships in place of the former polemast.

1 "Libra" Class (officially rated as *Torpediniera*)

LIBRA

Pennant No.	F 552
Builders:	C.N. Quarnaro Fiume
Laid down:	Dec. 1936
Launched:	30 Oct. 1937
Completed:	Jan. 1938
Displacement:	1,030 tons *standard* (1,250 tons *full load*)
Dimensions:	259½ (*w.l.*), 280⅔ (*o.a.*) × 27 × 9 (*mean*) feet
Guns:	6—40 mm., 56 cal. (3 twin mountings)
A/S weapons:	1 Hedgehog, 2 D.C.T., 2 D.C. racks
Machinery:	2 sets Tosi geared turbines. 2 shafts. S.H.P.: 19,000=34 kts. designed (25 kts. sea speed)
Boilers:	2, of 3-drum type
Oil fuel:	207 tons
Radius:	1,260 miles at 20 kts.
Complement:	110 (peacetime), 159 wartime

General Notes
Fitted for minelaying and minesweeping. Former ocean-going torpedo boat. Converted to a fast light anti-submarine frigate in 1951-53. Torpedo tubes removed. In reserve.



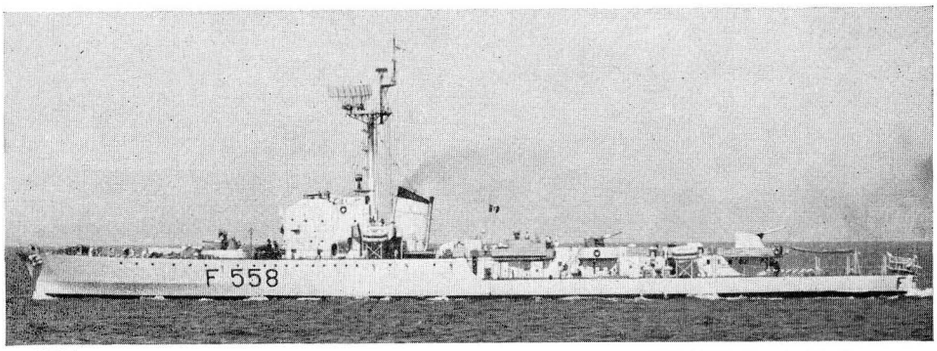
CLIO — 1958, *Italian Navy, Official*

Reclassification Notes
Latterly rated as *Nave Scorta Costiera*. Officially re-rated as *Torpedininiera* in 1959.

Recent Disposal
Sister ship *Clio* was scrapped in 1960.

2 "Orsa" Class (officially rated as *Torpediniere*)

	ORIONE	**ORSA**
Name:	*Orione*	*Orsa*
Pennant No.:	F 559	F 558
Builders:	C.N.R., Palermo	C.N.R., Palermo
Laid down:	Apr. 1936	Apr. 1936
Launched:	21 Mar. 1937	21 Apr. 1937
Completed:	1938	1938
Displacement:	1,200 tons *standard* (1,700 tons *full load*)	
Dimensions:	274¼ (*pp.*), 279 (*w.l.*), 292¾ (*o.a.*) × 31 × 11½ (*max.*), 8 (*mean*) feet	
Guns:	4—40 mm. 56 cal. Bofors AA.	
A/S weapons:	1 Hedgehog, 2 D.C.T., 2 D.C. racks	
Machinery:	Tosi geared turbines. 2 shafts. S.H.P.: 16,000=28 kts. designed (22 kts. sea speed)	
Boilers:	2, of 3 drum type	
Oil fuel:	450 tons	
Radius:	4,000 miles at 15 kts.	
Complement:	110	



ORSA — *Added 1959, Captain Aldo Fraccaroli*

General Notes
Ordered in 1935. Fitted for minelaying and minesweeping. Can carry 20 mines. Were rated as Escort Vessels (*Avvisi Scorta*) when first completed, later as torpedo boats, and re-rated as Escort Vessels again in 1951. Converted to anti-submarine frigates in 1953-55, torpedo tubes being removed.

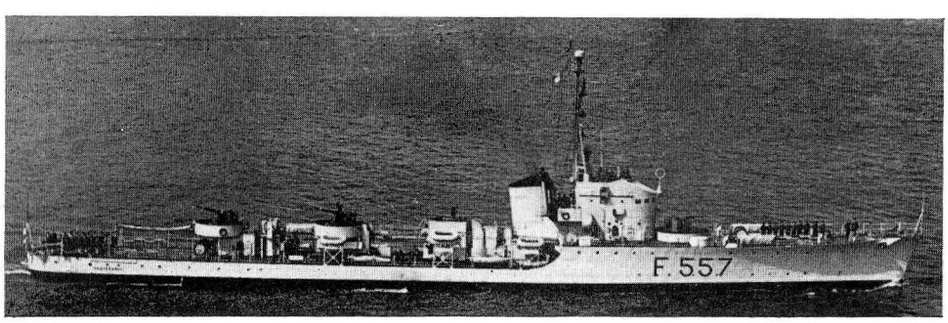
Reclassification Notes
Latterly rated as *Navi Scorta Costiere*. Officially re-rated as *Torpediniera* in 1959.

Photograph Notes
An official photograph of *Orione* appears in the 1958-59 edition.

1 "Sirio" Class (officially rated as *Torpediniera*)

SAGITTARIO

Pennant No.:	F 557
Builders:	C. N. Quarnaro Fiume
Laid down:	Nov. 1935
Launched:	21 June 1936
Completed:	Oct. 1936
Displacement:	1,000 tons *standard* (1,200 tons *full load*)
Dimensions:	269 × 27 × 9 feet
Guns:	6—40 mm. AA. (3 twin mountings) 56 cal. (see notes)
A/S weapons:	1 Hedgehog, 2 D.C.T., 2 D.C. racks
Machinery:	2 Tosi geared turbines. 2 shafts. S.H.P.: 19,000=34 kts. designed (25 kts. sea speed)
Boilers:	2, of 3-drum type
Oil fuel:	193 to 211 tons
Radius:	1,200 miles at 20 kts.
Complement:	110 (peace time)



SAGITTARIO — 1960, *courtesy Ing. Augusto Nani*

General Notes
Fitted for minelaying and minesweeping. Fast corvette type converted to a fast anti-submarine frigate in 1951-52. Formerly rated as a torpedo boat. Latterly rated as *Nave Scorta Costiera*. Officially re-rated as *Torpediniera* in 1959.

Recent Disposals
Sister ships *Cassiopea* and *Sirio* were scrapped in 1960.

CORVETTES

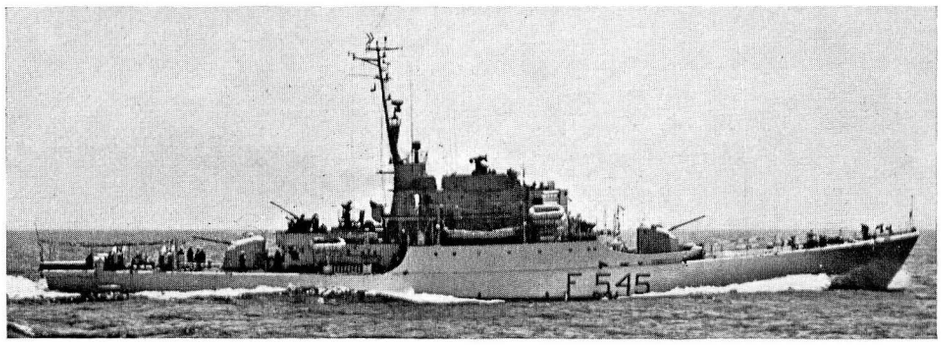
4 Improved "Airone" Class

Notes
It was officially stated in 1960 that four units of an improved "Airone" class will be ordered soon under the 1959-60 new construction programme. They will have a displacement of 1,000 tons and 2 diesel motors of 8,000 B.H.P.

3 "Airone" Class

ALBATROS (ex-*PCE* 1919) **AIRONE** (ex-*PCE* 1921)
ALCIONE (ex-*PCE* 1920)

Displacement:	800 tons *standard* (1000 tons *full load*)
Dimensions:	244 (*pp.*), 249½ (*o.a.*) × 31 × 9 feet
Guns:	2—3 inch, 62 cal., 2—40 mm., 70 cal., Bofors AA.
A/S weapons:	2 Hedgehogs, Mk. II, 4 D.C.T., 1 D.C. rack
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 4,500 = 21 kts. (sea speed 20 kts.)
Oil fuel:	100 tons
Radius:	2,400 miles at 18 kts.
Complement:	109



AIRONE — 1959, *Captain Aldo Fraccaroli*

Pennant No.	*Name*	*Launched*	*Completed*
F 543	*Albatros*	18 July 1954	1 June 1955
F 544	*Alcione*	19 Sep. 1954	23 Oct. 1955
F 545	*Airone*	21 Nov. 1954	29 Dec. 1955

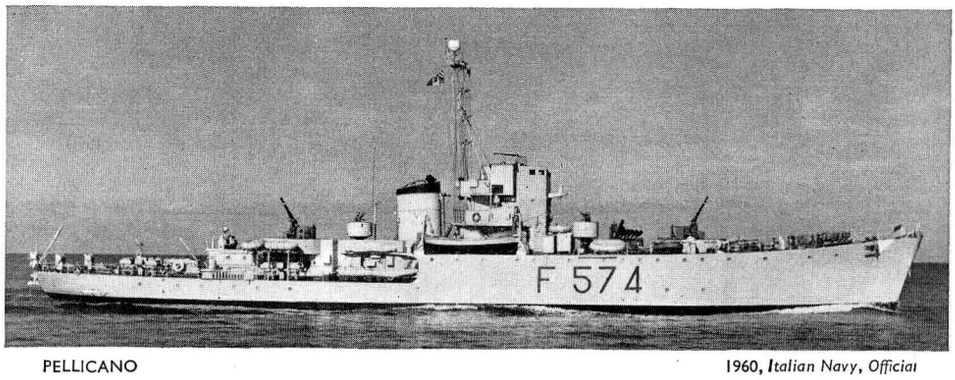
Notes
Built in Italy by Navalmeccanica, Castellammare di Stabia. Five other identical ships were built in Italian yards to the offshore construction order of the United States for Mutual Defense Program general account, one for Netherlands, four for Denmark.

22 "Ape" Class
(officially rated as *Corvette*)

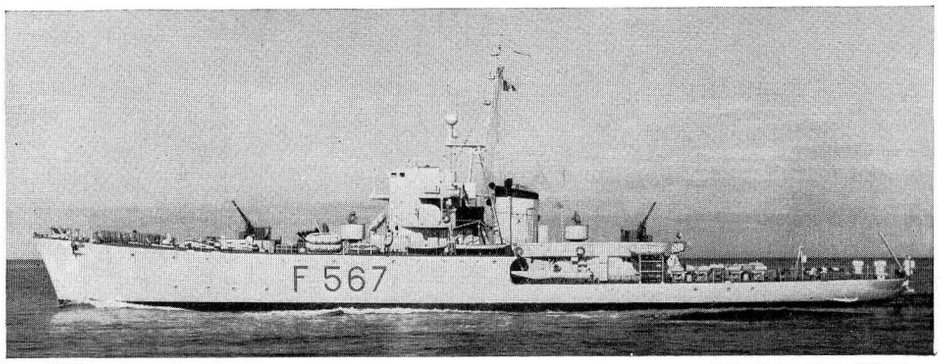
F 567 **APE**
F 578 **BAIONETTA**
F 549 **BOMBARDA**
F 569 **CHIMERA**
F 575 **CORMORANO**
F 547 **CRISALIDE**
F 563 **DANAIDE**
F 568 **DRIADE**
F 548 **FARFALLA**
F 577 **FENICE**
F 572 **FLORA**
F 576 **FOLAGA**
F 571 **GABBIANO**
F 566 **GRU**
F 561 **IBIS**
F 562 **MINERVA**
F 574 **PELLICANO**
F 573 **POMONA**
F 564 **SCIMITARRA**
F 579 **SFINGE**
F 565 **SIBILLA**
F 570 **URANIA**

Displacement:	670 tons *standard* (800 tons *full load*)
Dimensions:	192¾ (*w.l.*), 211¼ (*o.a.*) × 28½ × 8½ feet
Guns:	4—40 mm., 56 cal. in 10 ships, 3—40 mm., 56 cal. in 9 ships (2—20 mm. AA., 70 cal. in two ships) see notes
Tubes:	2—17·7 inch (see notes)
A/S weapons:	1 Hedgehog, Mk. 15 or Mk. 10 (see notes), 4 D.C.T.
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 3,500 = 18·5 kts. Actual best speed is 15 to 16 kts.
Oil fuel:	64 tons
Radius:	2,800 miles at 15 kts.
Complement:	100

Notes
All launched in 1942-48. Originally fitted for minesweeping. Only vessels (8) attached to the Command Training School carry torpedo tubes for training. Ten of this class (*Ape*, *Chimera*, *Cormorano*, *Danaide*, *Fenice*, *Flora*, *Pellicano*, *Pamona*, *Sibilla* and *Sfinge*) carry 4—40 mm., 56 cal. AA. guns. *Folaga* carries 1—3·9 inch and 2—40 mm., 56 cal AA. guns. (*Bombarda* and *Gabbiano* carry 2—40 mm., 56 cal. AA. guns and 2—20 mm., 70 cal. AA. guns). Remainder have 3—40 mm., 56 cal. AA. guns (*Cormorano* and *Danaide* have no hedgehog). Some have depth-charge equipment at stern. All have been modified with navigating bridge.



PELLICANO — 1960, *Italian Navy, Official*



APE — 1958, *Italian Navy, Official*

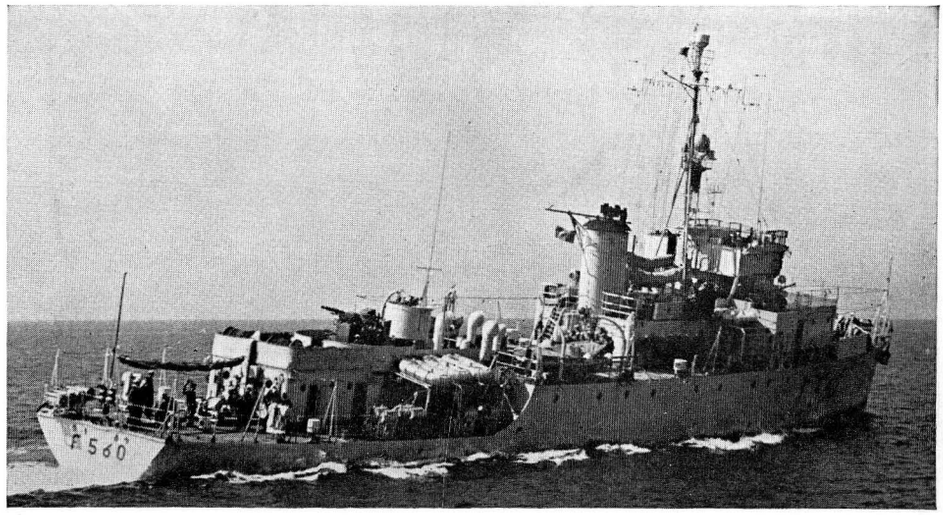
1 Ex-British "Algerine" Class
(officially rated as *Corvetta*)

ALABARDA (ex-*Ammiraglio Magnaghi*, ex-*Eritrea*, ex-*Larne*)

Pennant No.:	F 560
Builders:	Lobnitz & Co., Ltd., Renfrew
Laid down:	25 Jan. 1943
Launched:	2 Sep. 1943
Completed:	22 Nov. 1943

Displacement:	990 tons *standard* (1,262 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 11½ (*max.*) feet
Guns:	4—40 mm., 56 cal. Bofors
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	Triple expansion. I.H.P.: 2,000 = 13 kts. (sea speed 11 kts.)
Boilers:	2, three-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 8 kts.
Complement:	100

Note
Former British "Algerine" class ocean minesweeper. Acquired by Italy after Second World War. First classed officially as colonial sloop, then as corvette, subsequently as frigate, and later as coastal escort vessel. Classification officially changed from *Nave Scorta Costiera* to *Corvetta* in 1959. The 3·9 inch gun forward was removed in 1957 and the space is now occupied by a C.I.C. for motor torpedo boats.



ALABARDA — 1958, *Captain Aldo Fraccaroli*

Reclassification Notes
In 1960 the corvettes *Daino* and *Gazzella* were reclassified, the former as a surveying vessel and the latter as a training ship (see under surveying vessels and training ships on later pages).

SUBMARINES

1 Projected Nuclear Powered Type

GUGLIELMO MARCONI

Displacement:	2,830 tons *surface*
Dimensions:	252×31 feet
Machinery:	Water-cooled nuclear reactor. Geared turbines

Notes

The first nuclear powered submarine projected in Italy. Still in the planning stage. Based on the design of the United States nuclear powered submarine *Skipjack*. The name *Guglielmo Marconi* has been assigned to this new submarine to be built.

Official Statement

The design of the two submarine killer type submarines has undergone extensive modification in armament and electronic apparatus. The final characteristics are not yet settled. The names of the two submarines have been changed to *Bagnolini* and *Enrico Toti*, being the names of two submarines which distinguished themselves in war action.

2 New Construction Submarine Killer Type (SSK)

ALPINO BAGNOLINI (ex-*Guglielmo Marconi*, ex-*Delfino*)
ENRICO TOTI

Displacement:	850 tons *standard*, 1,021 tons *surface* (1,230 tons *submerged*)
Dimensions:	215×19×17
Tubes:	4—21 inch (bow)
Machinery:	2 diesels. 1 shaft. B.H.P.: 2,200=14 kts. (*surface*) Electric motors, H.P.: 2,200=15 kts. (*submerged*)

Notes

Alpino Bagnolini (ex-*Guglielmo Marconi*) was to have been built under the 1956-57 Programme by Cantieri Navali di Taranto. Laid down nominally on 16 June 1957. Was originally to have been named *Delfino*, Italy's first submarine to be constructed since the Second World War. *Enrico Toti* was to have been built under the 1958-59 programme. Rated as SSK (submarine killers). Both will be laid down during 1960.

1 Ex-U.S. "Balao" Class

EVANGELISTA TORRICELLI (ex-U.S.S. *Lizardfish*, SS 373)

Builders:	Manitowoc S.B. Co.
Launched:	16 July 1944
Completed:	30 Dec. 1944
Transferred:	1 Apr. 1959
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½×27×17 feet
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	2 2-stroke diesels. B.H.P.: 6,500=20 kts. *surface* 2 electric motors. H.P.: 2,750=10 kts. *submerged*
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85

Notes

Lent to the Italian Navy by the U.S.A. Transferred to the Italian Navy by the U.S. Navy at Pearl Harbour on 9 Jan. 1960. Was originally to have been renamed *Luigi Torelli*.

2 Ex-U.S. "Gato" Class Oceangoing Type

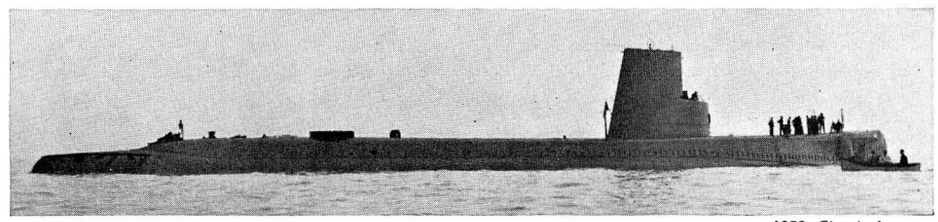
LEONARDO DA VINCI (ex-U.S.S. *Dace*, SS 247)
ENRICO TAZZOLI (ex-U.S.S. *Barb*, SS 220)

Name:	*Leonardo da Vinci*	*Enrico Tazzoli*
Pennant No.:	S 510	S 511
Builders:	Electric Boat Div. General Dynamics Corpn.	Electric Boat Div. General Dynamics Corpn.
Laid down:	22 July 1942	7 June 1941
Launched:	25 Apr. 1943	2 Apr. 1942
Completed:	23 July 1943	8 July 1942
Transferred:	15 Dec. 1954	31 Jan. 1955

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¼×27×17 feet
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	2 General Motors 2-stroke diesels. B.H.P.: 6,500=21 kts. *surface* 2 electric motors. H.P.: 2,750=11·5 kts. *submerged*
Oil fuel:	250 tons
Radius:	12,000 miles at 10 kts.
Complement:	85

Notes

Transferred to Italy by U.S.A. after conversion to guppy snorkel in 1953-54. Modified structure and fairwater. Loan by U.S. extended for 5 years in 1959.



ENRICO TAZZOLI — 1959, *Giorgio Arra*

2 "Flutto" Class

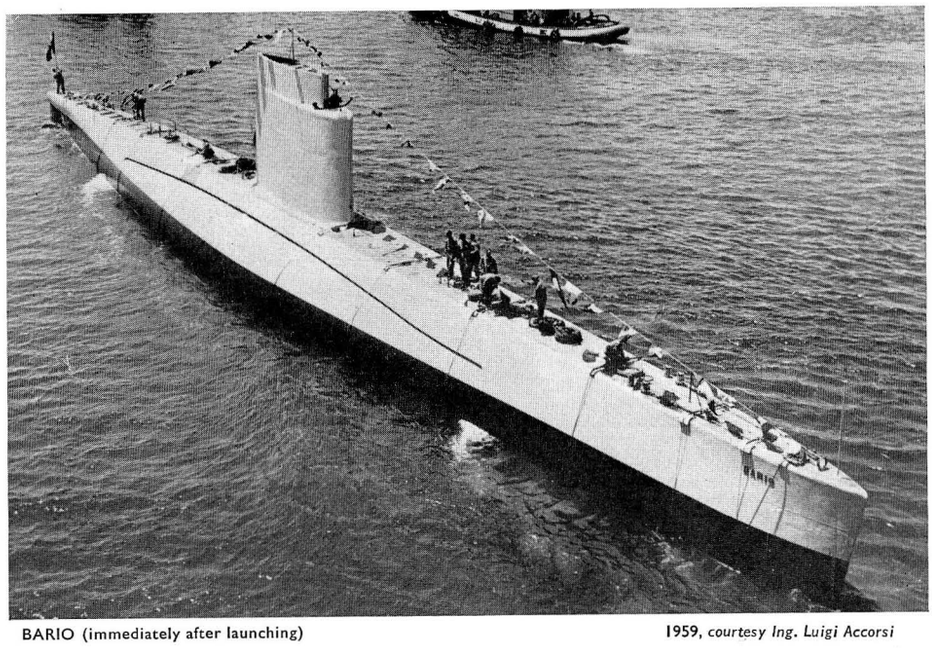
BARIO (ex-*Uit 7*, ex-*Bario*)

Pennant No.:	S 503
Builders:	C.R.D.A., Monfalcone
Laid down:	15 Mar. 1943
Launched:	23 Jan. 1944
Completed:	Dec. 1957

Displacement:	800 tons *standard*, 905 tons *surface*, 1,107 tons *submerged*
Dimensions:	216½×23×13½ feet
Tubes:	4—21 inch A/S
Machinery:	2 MAN diesels. 1 shaft. B.H.P.: 2,700=14 kts. *surface*, 3 electric motors =14 kts. *submerged*
Radius:	10,000 miles at 8 kts.
Complement:	60

Notes

Bario was sunk by Allied air-raid on 16 Mar. 1945 after having been renamed *Uit 7*. She was completely reconstructed and modernised during 1957-59 and re-launched on 21 June 1959 (see photo).

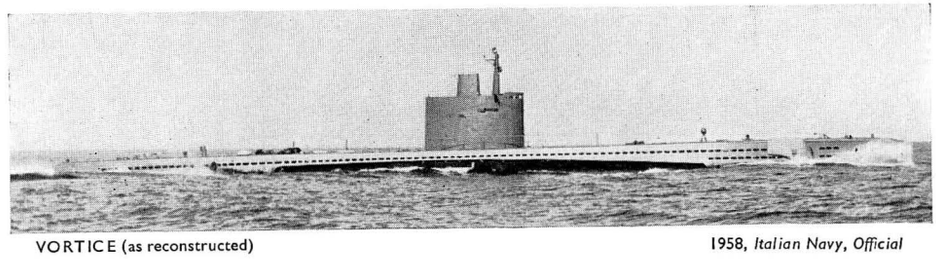


BARIO (immediately after launching) — 1959, *courtesy Ing. Luigi Accorsi*

VORTICE (ex-*P.V.2*, ex-*Vortice*)

Pennant No.:	S 502
Builders:	C.R.D.A., Monfalcone
Laid down:	3 Jan. 1942
Launched:	23 Feb. 1943
Completed:	21 June 1943

Displacement:	781 tons *standard*, 901 tons *surface*, 1,095 tons *submerged*
Dimensions:	207½×22⅔×16 feet
Tubes:	4—21 inch (originally 6—21 inch)
Machinery:	2 FIAT diesels. 2 shafts. B.H.P.: 2,400=15 kts. *surface*, 2 electric motors. H.P.: 1,350=7 kts. *submerged*
Radius:	12,500 miles at 8 kts.
Complement:	52



VORTICE (as reconstructed) — 1958, *Italian Navy, Official*

Notes

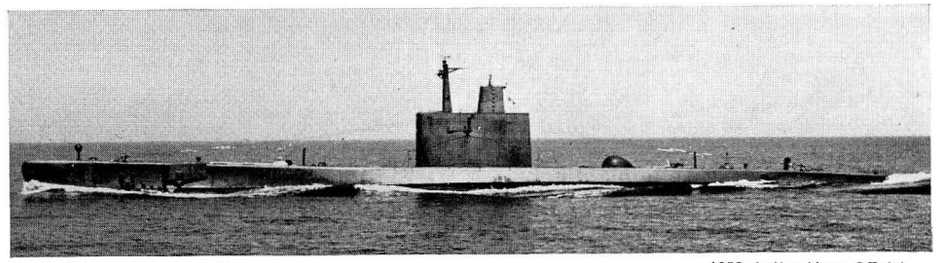
Vortice is one of 8 boats of the "Flutto" Class which joined the Royal Italian Navy during the war. She was laid up under the terms of the Peace Treaty. Her subsequent reconditioning was completed at the end of 1952.

1 "Acciaio" Class

GIADA (ex-*P.V.1*, ex-*Giada*)

Pennant No.:	S 501
Builders:	C.R.D.A. Monfalcone
Laid down:	16 Oct. 1940
Launched:	10 July 1941
Completed:	6 Dec. 1941

Displacement:	643 tons *standard*, 719 tons *surface*, 865 tons *submerged*
Dimensions:	197⅓×21⅕×15⅜ feet
Tubes:	4—21 inch
Machinery:	2 Tosi diesels. 2 shafts. B.H.P.: 1,350=12 kts. *surface*, 2 electric motors, H.P.: 800=6 kts. *submerged*
Oil fuel:	40 tons
Radius:	2,050 miles at 8 kts.
Complement:	54



GIADA (as reconstructed) — 1958, *Italian Navy Official*

Notes

One of the 13 "Acciaio" Class boats which actually joined the Royal Italian Navy during the war. Laid up under the terms of the Peace Treaty. Reconditioning completed end of 1953. Guns removed.

OCEAN MINESWEEPERS



STORIONE — *Added* 1960

4 Ex-U.S. MSO Type
"Salmone" Class

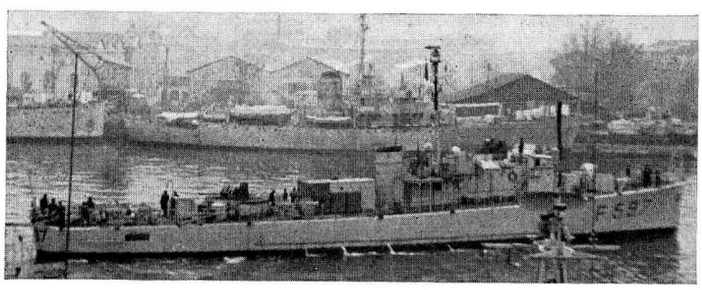
M 5430 **SALMONE** (ex-*MSO* 507)
M 5432 **SGOMBRO** (ex-*MSO* 517)
M 5433 **SQUALO** (ex-*MSO*)
M 5431 **STORIONE** (ex-*MSO* 506)

Displacement:	665 tons *standard* (750 tons *full load*)
Dimensions:	165 (*w.l.*) 183¾ (*o.a.*) × 35 × 10 feet
Guns:	1—40 mm., 56 cal. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,600 = 14 kts.
Oil fuel:	46 tons
Range:	3,000 miles at 10 kts.
Complement:	74

General Notes
Former American " Agile " class ocean minesweepers with wooden hulls and non-magnetic equipment. The diesels are of non-magnetic stainless steel alloy. Controllable pitch propellers. All transferred by the U.S. Navy. *Storione*, launched on 13 Nov. 1954, was built by Martinolich S.B. Company, San Diego, and transferred on 23 Feb. 1956. *Salmone*, launched on 19 Feb. 1955 was built by Martinolich S.B. Co., and transferred from United States at San Diego, Calif., on 17 June 1956 under the terms of the Mutual Defense Assistance Program. *Sgombro* and *Squalo* were delivered in June 1957.

Recent Disposals
The four fast minesweepers (ex-ocean-going torpedo boats) were removed from the effective list, *Nicola Fabrizi* in 1957, and *Antonio Mosto*, *Giacinto Carini* and *Guiseppe Abba* in 1958.

PATROL VESSELS



VEDETTA — 1960, *Captain Aldo Traccaroli*

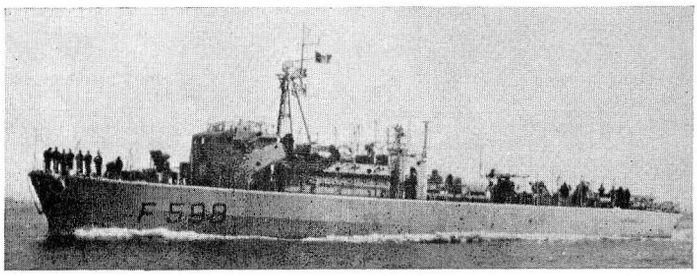
1 Ex-U.S. PC Type
Rated as Coastal Escort Vessel (*Corvetta*)

VEDETTA (ex-*Belay Deress*, ex-U.S.S. *PC* 1616)

Displacement:	325 tons *standard* (450 tons *full load*)
Dimensions:	170 (*pp.*), 173⅔ (*o.a.*) × 2⅔ × 10 feet
Guns:	2—40 mm., 56 cal. Bofors AA., 2—20 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 3,240 = 19 kts.
A/S weapons:	1 Hedgehog. 4 D.C.T., 2 D.C. racks
Radius:	3,000 miles at 12 kts.
Complement:	60

Notes
This ship has had rather a chequered history. She was built at Brest, France, as a United States off-shore order under the Mutual Defense Assistance Program. Laid down on 17 Dec. 1953. Launched on 30 Sep. 1954. Completed on 23 Aug. 1955. The *PC* 1616 was originally intended for Germany, but a change in U.S. plans resulted in the ship never being delivered, and she was finally given to Ethiopia under the Military Assistance Program. Transferred to Ethiopia at Bremerhaven, Germany, by the U.S. Navy in Jan. 1957. Officially taken over from the American flag at Massawa, Ethiopia, in mid-1957. Later, the ship was found to be too much for the state of naval training in Ethiopia, and she was returned to the U.S. Navy. She was then sold to Italy, being transferred to the Italian Navy under the Mutual Defense Assistance Program on 3 Feb. 1959, and officially classified as a *nave pattuglia* (patrol vessel). Air-conditioning equipment is installed. Refitted in La Spezia Navy Yard in 1959. The above is the original armament which may be modified in due course.

Patrol Vessels—*continued*



SENTINELLA — *Added* 1960, *courtesy Ermino Bagnasco*

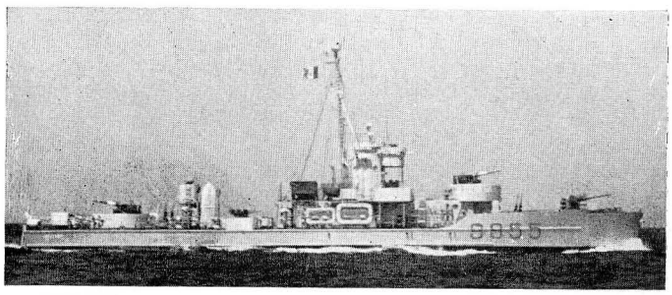
1 Submarine Chaser Type
Rated as Coastal Escort Vessel (*Corvetta*)

SENTINELLA (ex-*VAS* 470) Pennant No.: F 598

Displacement:	300 tons *standard* (340 tons *full load*)
Dimensions:	154 (*p.p.*), 163 (*o.a.*) × 21⅓ × 7 feet
Guns:	2—40 mm. 56 cal. AA
Torpedoes:	2—17·7 inch A/S
A/S weapons:	1 Hedgehog, Mk. 10, 2 D.C.T., 1 D.C. rack
Machinery:	4 diesels. 2 shafts. B.H.P.:9,000 = 32 kts. (*designed*) Sea speed, 27 kts.
Oil fuel:	28 tons
Complement:	76

Notes
Ordered in 1952 and laid down on 21 June 1954 at C.R.D.A. Monfalcone yard. Launched on 14 Nov. 1955. Commissioned on 20 Sep. 1956. Rated specifically as a corvette under the generic category of coastal escort vessels.

SUPPORT GUNBOATS (*Cannoniere d'appoggio*)



SEGUGIO — 1957, *Italian Navy, Official*

(Ex-U.S. Landing Ships, Support/Large)
6 "Alano" Class

ALANO ex-*LSSL* 34)
BRACCO (ex-*LSSL* 38)
MASTINO (ex-*LSSL* 62)
MOLOSSO (ex-*LSSL* 63)
SEGUGIO (ex-*LSSL* 64)
SPINONE (ex-*LSSL* 118)

Displacement:	227 tons *standard* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 158½ (*o.a.*) × 23⅔ × 5⅔ feet
Guns:	5—40 mm., 56 cal.; 4—20 mm., 70 cal.; 4—12·7 mm.
Machinery:	8 Gray Marine diesels. 2 shafts. B.H.P.: 900 = 12·5 kts. (Sea speed 10 kts.)
Oil fuel:	87 tons
Radius:	8,000 miles at 10 kts.
Complement:	73

Notes
Transferred from the U.S.A. on 25 July, 1951, under the Mutual Defense Assistance Program. Formerly designated LCI (L) (Landing Craft Infantry, Large). Distinguished by NATO pennant numbers L 9851 to L 9856 respectively. Photograph of *Alano* in the 1957-58 edition.

TRAWLER MINESWEEPERS (*Dragamine*) MSA



DR 301 — 1958, *Italian Navy, Official*

16 Ex-British MS Type

DR 301 (ex-*Burra*)
DR 302 (ex-*Cumbrae*)
DR 303 (ex-*Unst*)
DR 304 (ex-*Staffa*)
DR 305 (ex-*Filla*)
DR 306 (ex-*Egilsay*)
DR 307 (ex-*Minuet*)
DR 308 (ex-*Twostep*)
DR 309 (ex-*Grain*)
DR 310 (ex-*Othello*)
DR 311 (ex-*Mousa*)
DR 312 (ex-*Gavotte*)
DR 313 (ex-*Foula*)
DR 314 (ex-*Ensay*)
DR 315 (ex-*Stroma*)
DR 316 (ex-*Hornpipe*)

Displacement:	523 to 545 tons *standard* (750 to 780 tons *full load*)
Dimensions:	150 (*pp.*), 164 (*o.a.*) × 27⅔ × 11 feet
Guns:	3—20 mm. AA (see *Notes*)
Machinery:	Triple expansion. I.H.P.: 950 = 11 kts.
Boilers:	1 cylindrical
Fuel:	180 to 189 tons coal
Complement:	36

Notes
All Admiralty design trawlers of " Isles," " Dance " and " Shakespearian " classes purchased from Great Britain. NATO Pennant Nos. 5301 to 5316 respectively. The 3-inch gun in some ships was removed and one 20 mm. AA. gun added in 1956, but other ships still have their 3-inch gun.

COASTAL MINESWEEPERS

(*Dragamine Costieri*) MSC



CILIEGIO 1956, *Lieut. Aldo Fraccaroli*

37 U.S. and Italian MSC (ex-AMS) Types

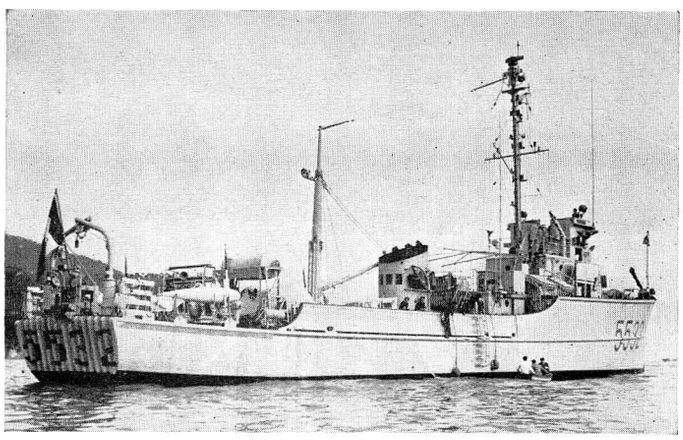
18 " Abete " Class (American built)

M 5501 **ABETTE**
M 5502 **ACACIA**
M 5503 **BETULLA**
M 5504 **CASTAGNO**
M 5505 **CEDRO**
M 5506 **CILIEGIO**
M 5507 **FAGGIO**
M 5508 **FRASSINO**
M 5509 **GELSO**
M 5510 **LARICE**
M 5519 **MANDORLO** (ex-*Salice*)
M 5511 **NOCE**
M 5512 **OLMO**
M 5513 **ONTANO**
M 5514 **PINO**
M 5515 **PIOPPO**
M 5516 **PLATANO**
M 5517 **QUERCIA**

Displacement:	375 tons *standard* (405 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 26½ × 8½ feet
Guns:	2—20 mm.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Oil fuel:	40 tons
Radius:	2,500 miles at 10 kts.
Complement:	38

Notes

Former American " Bluebird " class coastal motor minesweepers of wooden construction, a new type of vessels constructed throughout of materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. All transferred by the U.S. Navy in 1953-54. Formerly numbered AMS 72-76 ,79-82, 88-90, 133-137. NATO Pennant Numbers above.



ALLORO 1958, *Giorgio Arra*

19 "Agave" Class (Italian built)

M 5531 **AGAVE**
M 5532 **ALLORO**
M 5533 **EDERA**
M 5534 **GAGGIA**
M 5535 **GELSOMINO**
M 5536 **GIAGGIOLO**
M 5537 **GLICINE**
M 5538 **LOTO**
M 5539 **MIRTO**
M 5540 **TIMO**
M 5541 **TRIFOGLIO**
M 5542 **VISCHIO**
*M 5521 **BAMBÙ**
*M 5522 **EBANO**
*M 5523 **MANGO**
*M 5524 **MOGANO**
*M 5525 **PALMA**
*M 5526 **ROVERE**
*M 5527 **SANDALO**

Displacement:	375 tons *standard* (405 tons *full load*)
Dimensions:	144 (*o.a.*) × 26½ × 8½ feet
Guns:	2—20 mm., 70 cal. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	38

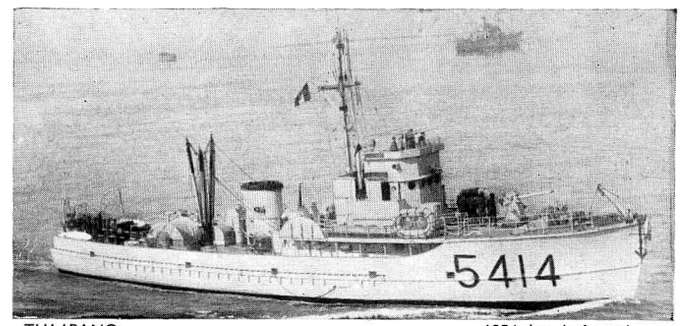
Notes

Non-magnetic type minesweepers of composite wooden and alloy construction similar to those transferred from the United States Navy, but built in Italian yards. Last 7 were all built by C.R.D.A., Monfalcone, and launched in 1956. NATO Pennant Numbers above.

Recent Disposals

The small minesweepers *DR* 20, *DR* 32, *DR* 34, *DR* 38, *DR* 40 and *DR* 41 have been scrapped.

Coastal Minesweepers—*continued*



TULIPANO 1954, *Ing. L. Accorsi*

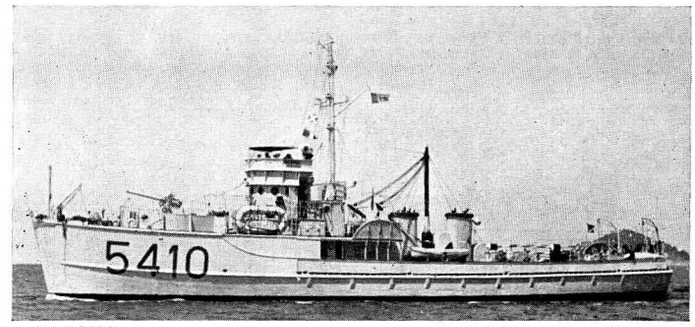
17 Ex-American BYMS Types (MSC (o))
11 " Azalea " Class (One funnel)

M 5401 **AZALEA** (ex-*BYMS* 2142)
M 5402 **BEGONIA** (ex-*BYMS* 2073)
M 5404 **DALIA** (ex-*BYMS* 2141)
M 5405 **FIORDALISO** (ex-*BYMS* 2277)
M 5406 **GARDENIA** (ex-*BYMS* 2150)
M 5416 **GLADIOLO**
M 5408 **MAGNOLIA** (ex-*BYMS* 2206)
M 5412 **ORCHIDEA** (ex-*BYMS* 2037)
M 5413 **PRIMULA** (ex-*BYMS* 2278)
M 5414 **TULIPANO** (ex-*BYMS* 2194)
M 5414 **VERBENA** (ex-*BYMS* 2280)

Displacement:	290 tons *standard* (335 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 6 feet
Guns:	1—3 inch, 2—20 mm. AA
Machinery:	2 General Motors, diesels. B.H.P.: 1,000=13 kts.
Oil fuel:	19 tons
Radius:	2,500 miles at 8 kts.
Complement:	33

Notes

Formerly designated DR 401, 402, 403, 411, 404, 417, 405, 406 ,407, 416, 408, respectively Derricks abaft funnel. NATO Pennant Numbers above.



NARCISO 1958, *Italian Navy, Official*

6 " Anemone " Type (Two funnels)

M 5400 **ANEMONE** (ex-*BYMS* 2009)
M 5403 **BIANCOSPINO** (ex-*BYMS* 2012)
M 5407 **GERANIO** (ex-*BYMS* 2014)
M 5409 **MUGHETTO** (ex-*BYMS* 2023)
M 5410 **NARCISO** (ex-*BYMS* 2024)
M 5411 **OLEANDRO** (ex-*BYMS* 2027)

Displacement:	245 tons *trials* (338 tons *full load*)
Dimensions:	130 (*w.l.*), 136 (*o.a.*) × 24½ × 8½ (*max.*) feet
Guns:	3—20 mm. AA. (some have 1—3 inch)
Machinery:	2 General Motors, diesels. 2 shafts. B.H.P.: 1,000=14 kts.
Radius:	2,500 miles at 8 kts.
Complement:	30

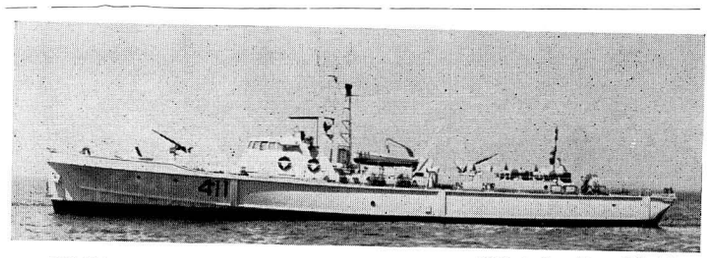
Notes

Formerly designated *DR* 409, 410, 412, 413, 414, 415, respectively. Mainmast derrick between funnels. NATO Pennant Nos. above.

General Notes for Both Types

All the above 17 vessels of generally similar particulars were built in 1942-43 and acquired from the U.S. Navy in July 1947. One 20 mm. AA. gun was added in 1956.

MOTOR PATROL BOATS (*Motovedette*)



DV 411 1958, *Italian Navy, Official*

2 DV Type

DV 408 (ex-114) **DV 409** (ex-116)

Displacement:	101 tons *standard* (110 tons *full load*)
Dimensions:	111½ × 19 × 4½ feet
Guns:	2—20 mm. AA., 70 cal.
Machinery:	2 petrol motors. 2 shafts. B.H.P.: 2,300=15 kts.
Fuel:	7 tons
Radius:	2,000 miles at 13 kts.

Notes

Inshore Patrol Boats (*Dragamine di Sorveglianza—D.V.*), designed and built by Cantiere Baglietto, Varazze, Italy. Both launched in 1944-45. Used for coastal patrols *DV* 133 and *DV* 135 were scrapped in Aug. 1953.

Recent Disposals

DV 401, *DV* 405, *DV* 406, *DV* 407 and *DV* 415 were removed from the effective list in 1957-58. *DV* 402, *DV* 403, *DV* 404, *DV* 411, *DV* 412, *DV* 413 and *DV* 414 were scrapped in 1959-60.

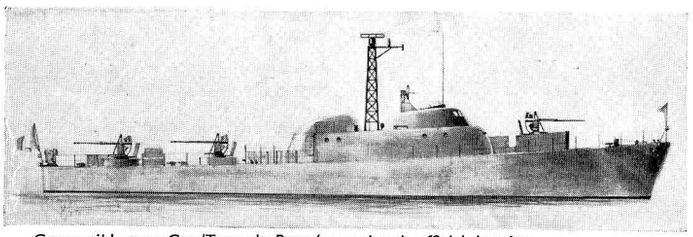
All seven boats of the *VAS* (*Vedette-Sommergible*) type, viz. *VAS* 491, *VAS* 492, *VAS* 493, *VAS* 494, *VAS* 495, *VAS* 496 and *VAS* 497, were removed from the effective list in 1957.

MOTOR GUNBOATS (*Motocannoniere*)

4 New Construction

Displacement:	175 tons *standard* (200 tons *full load*)
Dimensions:	131¼×21½×5½ feet
Guns:	3—40 mm. AA
Tubes:	2—21 inch
A/S weapons:	2 depth charge throwers, 1 depth charge rack
Machinery:	Diesel motors and gas turbines=38 kts.

Notes
Convertible gunboats to be built under the 1959-60 new construction programme.



Convertible type Gun/Torpedo Boat (as gunboat), official drawing
1959, *Italian Navy, Official*

3 Convertible Type Gun/Torpedo Boats

MC 491 **MC 492** **MC 493**

Displacement:	170 tons *standard*
Dimensions:	131¼×21×5 feet
Guns:	As *Gunboat:* 3—40 mm., 70 cal. or 2—40 mm., 70 cal. and 1 Rocket As *Torpedo Boat:* 1—40 mm., 70 cal.
Tubes:	As *Torpedo Boat:* 4—17·7 inch
Machinery:	2 diesels and Metrovick gas turbine. S.H.P.: 11,700=40 kts.

Notes
A new type of convertible gunboats and torpedo boats rated as MGB (*Motocannoniere*), improved versions of *MC* 490 prototype. *MC* 491 was laid down in 1957.



MC 490 1957, *Italian Navy, Official*

1 Convertible Type Rated as MGB

MC 490

Displacement:	160 tons *standard* (190 tons *full load*)
Dimensions:	129½×19⅔×5 feet
Guns:	2—40 mm. AA.
Tubes:	4—21 inch
A/S weapons:	2 D.C.T., 1 D.C. rack
Machinery:	4 diesles, 4 shafts. B.H.P.: 10,000=38 kts. (accelerating from 20 kts. to full speed very rapidly)

Notes
MC 490 was authorised in Nov. 1950, launched on 21 Jan. 1954 from C.R.D.A. Monfalcone Yard, and commissioned on 21 July 1955. Two rudders.



MC 485 1958, *Italian Navy, Official*

1 Ex-German "S" Type. Rated as MGB

MC 485 (ex-*MS* 621, ex-*Toros*)

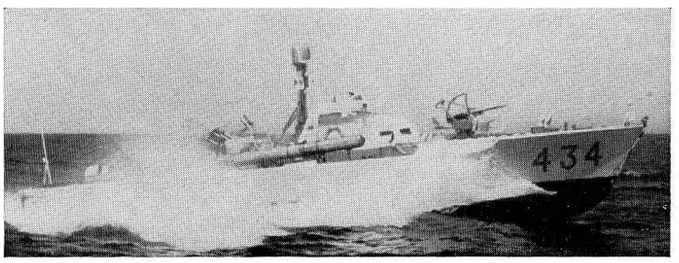
Displacement:	124 tons *standard* (130 tons *full load*)
Dimensions:	114½×16⅔×6⅔ feet
Guns:	2—40 mm., 56 cal. AA.
Tubes:	2—21 inch
Machinery:	3 Mercedes-Benz diesels. 3 shafts. B.H.P.: 7,500=40 kts. (32 kts. sea speed)
Radius:	800 miles at 30 kts.
Complement:	22

Notes
Ex-German S-boat, built by Lürssen Vegesack, then merchant ship *Toros*, purchased and rebuilt in Italy during 1953-54.

MOTOR TORPEDO BOATS (*Motosiluranti*) MGB

5 New Construction

Notes
Five motor torpedo boats of a new design are being built as part of the 1958-59 Italian Naval Programme.



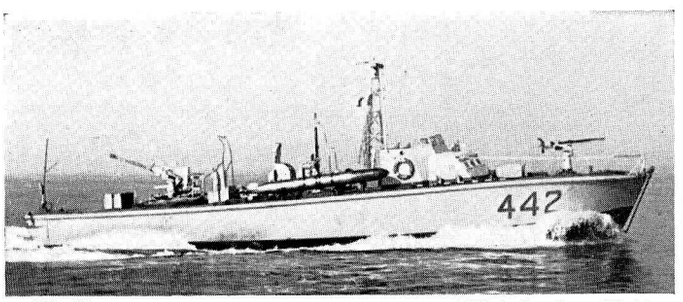
MS 434 1958, *Italian Navy, Official*

5 Ex-U.S. Vosper Type

MS 422 (ex-822) **MS 432** (ex-832) **MS 462** (ex-812)
MS 431 (ex-831) **MS 463** (ex-813)

Displacement:	38 tons *standard* (45 tons *full load*)
Dimensions:	70×19×6 feet
Guns:	5—20 mm., 65 cal.
Torpedoes:	2—17·7 inch
Machinery:	Packard petrol motors. 3 shafts. B.H.P.: 4,050=42 kts. (actual sea speed 30 kts.)
Oil fuel:	7 tons
Radius:	1,000 miles at 20 kts.
Complement:	15

Notes
Former United States PT boats of the Elco Vosper type. Two 17·7 inch torpedoes carried. No tubes. *MS* 421, *MS* 423 and *MS* 424 were removed from the effective list in 1958. *MS* 433, *MS* 434, *MS* 454, *MS* 461 and *MS* 464 were removed from the effective list in 1959.



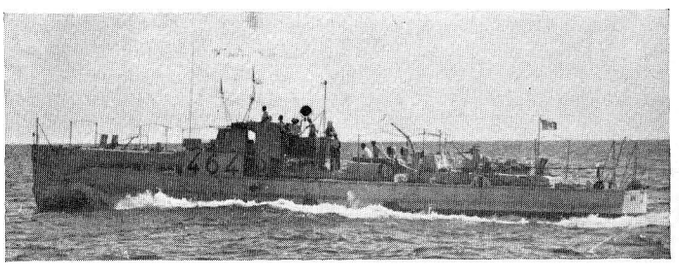
MS 442 1958, *Italian Navy, Official*

7 Ex-U.S. Higgins Type

MS 441 (ex-841) **MS 443** (ex-843) **MS 451** (ex-851) **MS 453** (ex-853)
MS 442 (ex-842) **MS 444** (ex-844) **MS 452** (ex-852)

Displacement:	43 tons *standard* (51 tons *full load*)
Dimensions:	78×20×6 feet
Guns:	1—40 mm., 56 cal., 2 or 3—20 mm., 70 cal.
Torpedoes:	2—17·7 inch
Machinery:	3 Packard 12-cyl. petrol motors. 3 shafts. B.H.P.: 4,050=40 kts. (actual sea speed 29 kts.) see *Notes*
Fuel:	8 tons
Radius:	1,000 miles at 20 kts.
Complement:	15

Notes
Former United States PT boats of the Higgins type. Refitted in Italy during 1949-53. Two 17·7 inch torpedoes carried. No tubes.
These boats are under reconstruction and will be fitted with three ASM/185/CRM (Italian) petrol motors of 4,500 B.H.P., equal to a designed sea speed of 34 kts.



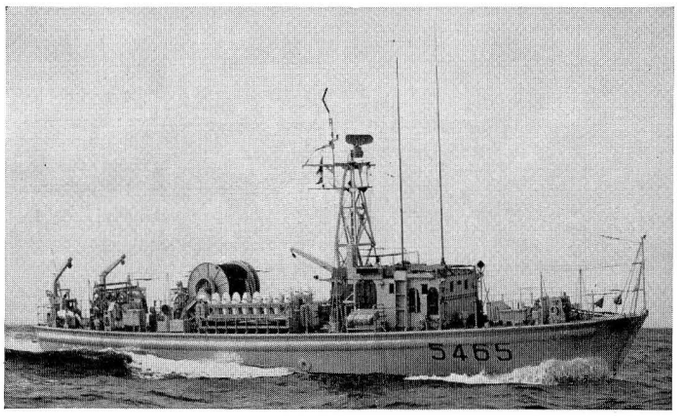
9 Italian MS Type

MS 471 (ex-611) **MS 473** (ex-613) **MS 475** (ex-619) **MS 482** (ex-616)
MS 472 (ex-612) **MS 474** (ex-614) **MS 481** (ex-615) **MS 483** (ex-617)
MS 484 (ex-618)

Displacement:	63-68 tons *standard*
Dimensions:	92×15×5 feet
Guns:	2 to 6—20 mm. M.G. (see *Notes*)
Tubes:	2—21 inch (and 2—17·7 inch torpedoes without tubes)
Machinery:	Petrol motors. 3 shafts. B.H.P.: 3,450=33-34 kts. (designed), now 27-28 kts.
Radius:	600 miles at 16 kts.

Notes
Built in 1942-43 at C.R.D.A. Monfalcone yard; converted as *MV* (motovedette) with no tubes under the terms of the Peace Treaty. Reconverted in 1951-53. The refit of *MS* 472 and *MS* 473 as convertible boats was completed in 1960. They now carry two 40 mm., 56 cal. AA guns (as gunboats) or one 40 mm., 56 cal. AA gun and two 17·7 inch torpedoes with side launchers (as torpedo boats). *MS* 474 and *MS* 481 are undergoing similar conversion.

INSHORE MINESWEEPERS
(*Dragamine Portuali*) MSI



RICCIO 1958, *Italian Navy, Official*

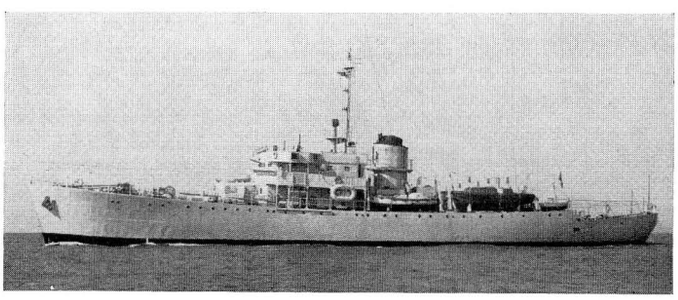
20 NATO "Ham" Type
"Aragosta" Class

M 5450 **ARAGOSTA**	M 5457 **GAMBERO**	M 5463 **POLIPO** (ex-*Polpo*)
M 5451 **ARSELLA**	M 5458 **GRANCHIO**	M 5464 **PORPORA**
M 5452 **ASTICE**	M 5459 **MITILO**	M 5465 **RICCIO**
M 5453 **ATTINIA**	M 5460 **OSTRICA**	M 5466 **SCAMPO**
M 5454 **CALAMARO**	M 5461 **PAGURO**	M 5467 **SEPPIA**
M 5455 **CONCHIGLIA**	M 5462 **PINNA**	M 5468 **TELLINA**
M 5456 **DROMIA**		M 5469 **TOTANO**

Displacement:	119 tons *standard* (142 tons *full load*)
Dimensions:	106×21×6 feet
Guns:	1—20 mm. (not mounted)
Machinery:	2 diesels. B.H.P.: 550=14 kts.
Oil fuel:	15 tons
Radius:	2,000 miles at 9 kts.
Complement:	14

Notes
Similar to British "Ham" class. All constructed in Italian yards for the Itallan Fleet in 1955-57 to the order of NATO. All names of small sea inhabitants. NATO Pennant Nos. above.

SURVEYING VESSELS (*Navi Idrografice*)



STAFFETTA 1958, *Italian Navy, Official*

1 Ex-British "Flower" Type Frigate

STAFFETTA (ex-*Elbano*, ex-U.S.S. *Prudent* PG 96, ex-H.M.S. *Privet*)

Displacement:	1,020 tons *standard* (1,280 tons *full load*)
Dimensions:	205 (*o.a.*)×33×14½ feet
Guns:	2—20 mm. AA
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts. (actual sea speed 12 kts.)
Boilers:	2 cylindrical
Oil fuel:	250 tons
Radius:	5,500 miles at 8 kts.

Notes
Former British "Flower" class corvette (later reclassified as a frigate). Built by Morton Engine & D.D. Co., Montreal, Canada, engined by Port Arthur S.B. Co. Laid down on 14 Aug. 1942, launched on 4 Dec. 1942, completed on 16 Aug. 1943. Converted for hydrographic duties and commissioned in 1953. NATO Pennant No.: A 5307.
The surveying vessel *Azio* was discarded in 1957.

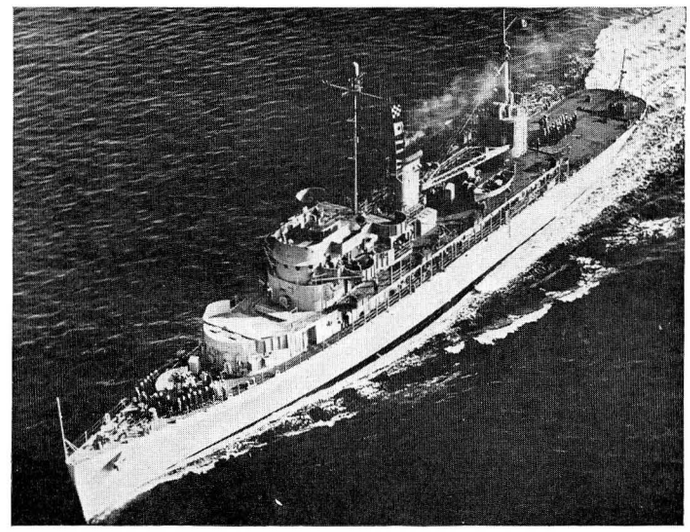
1 Ex-German "Daino" Type Corvette

DAINO (ex-*B* 2, ex-*M* 802)

Displacement:	605 tons *standard* (821 tons *full load*)
Dimensions:	224×29½×7¼ feet
Guns:	1—3·9 inch, 47 cal. aft; 3—40 mm. AA., 56 cal.
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. 2,400=14 kts.
Boilers:	2 Schulz-Marine
Oil fuel:	142 tons
Complement:	80

Notes
Ex-German coal burning minesweeper. Acquired on 20 July 1949, when she was classed as "Nave Ausiliarie" (Auxiliary Ship) but subsequently converted to burn oil fuel and classed as "Nave Pattuglia" (Patrol Ship). Pennant number painted on bows: M 5339. Reclassified as a minesweeper in 1954. Again reclassified as a coastal escort vessel (*Nave Scorta Costiera*) on 1 June 1956 and as *Corvetta* in 1959, with F pennant number 542. Reclassified as a surveying vessel in 1960. Sister ship *Antilope* (ex-*B* 1, ex-*M* 328) was removed from the effective list in 1958, and sister ship *Gazzella* was reclassified as a training ship in 1960 (see later page).

TENDERS (*Navi appoggio*)



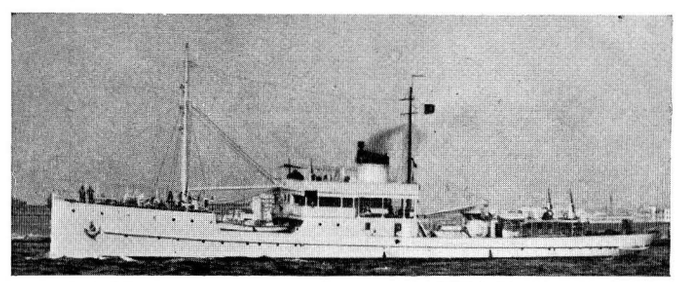
PIETRO CAVEZZALE 1958, *Italian Navy, Official*

1 Ex-U.S. AVP Type

PIETRO CAVEZZALE (ex-U.S.S. *Oyster Bay*, *AVP* 28, ex-*AGP* 6)

Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 311¾ (*o.a.*)×41×13½ (*max.*) feet
Guns:	1—3 inch, 2—40 mm., 56 cal. AA.
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 6,080=16 kts.
Oil fuel:	400 tons
Radius:	10,000 miles at 11 kts.
Complement:	200

Notes
Former American seaplane tender (previously motor torpedo boat tender) of the "Barnegat" class, built at Lake Washington Shipyard and launched on 7 Sep. 1942. Recommissioned and transferred from the United States Navy to the Italian Navy under the Mutual Defense Assistance Program on 23 Oct. 1957 and renamed. She is used for special duties, as a tender for frogmen and similar operations.



ERCOLE 1955, *Italian Navy, Official*

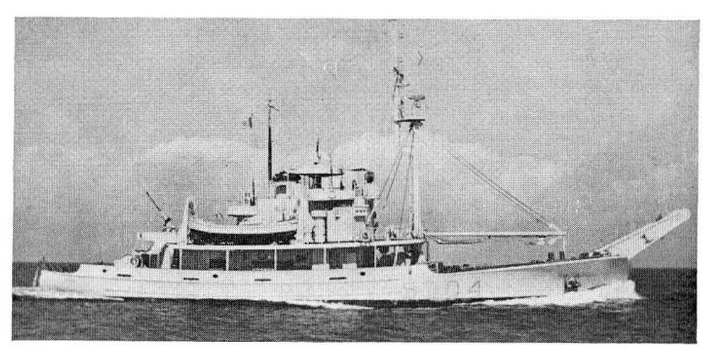
1 General Purpose Type

ERCOLE (ex-*Ciclope*)

Displacement:	1,050 tons
Dimensions:	180½×29½×12 feet
Guns:	4—20 mm.
Machinery:	2 triple expansion. 2 shafts. I.H.P.: 1,900=12 kts.
Boilers:	2

Notes
Launched in 1903. Multi-purpose depot ship, diving tender and fleet support ship. NATO Pennant No.: A 5302.

NETLAYERS (*Posareti*)



ALICUDI 1960, *Italian Navy, Official*

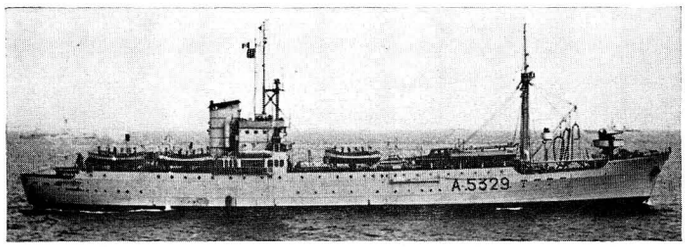
2 NATO Type

ALICUDI **FILICUDI**

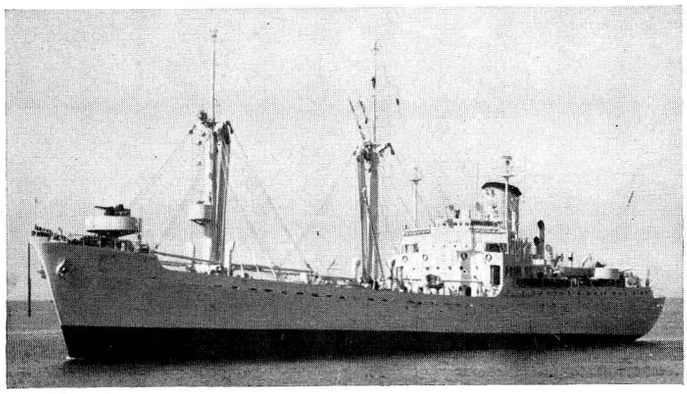
Displacement:	680 tons *standard* (834 tons *full load*)
Dimensions:	151¾ (*pp.*), 165½ (*o.a.*)×33½×10½ feet
Guns:	1—40 mm., 70 cal. AA.; 4—20 mm., 70 cal. AA.
Machinery:	Diesel-electric. H.P.: 1,200=12 kts.

Notes
Built to the order of NATO. Laid down on 22 Apr. 1954 and 19 July 1954, respectively by Ansaldo, Leghorn, launched on 11 July 1954 and 26 Sep. 1954. Pennant Nos.: A 5304 and A 5305, respectively.

TRANSPORTS (*Navi Trasporto*)



STROMBOLI (as reconstructed with deck extended forward) — 1959, *Captain Aldo Fraccaroli*



VESUVIO — *A. & J. Pavia*

2 OTO Type

	STROMBOLI	VESUVIO
Displacement:	2,188 tons *standard* (6,160 tons *full .oad*)	
Dimensions:	334⅛ (*o.a.*)×46×21⅜ feet	
Guns:	1—3·9 inch aft.), 4—40 mm., 56 cal.	
Machinery:	One set double reduction geared turbines. 13·5 kts.	S.H.P.: 3,700=
Boilers:	3 water tube. Oil fuel	
Radius:	8,150 miles at full load	

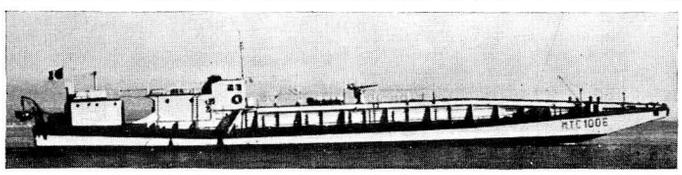
Notes
Both built by Odero-Terni-Orlando yard, La Ppezia. *Stromboli* was completed in 1948 and *Vesuvio* in 1954. *Stromboli* is fitted out as Flagship of the Logistic Support Group of the Fleet. NATO Pennant Nos.: A 5329 and A 5330, respectively.

TARANTOLA

Displacement:	512 tons
Dimensions:	157½×22×6 feet
Machinery:	Tosi diesel. B.H.P.: 380=10·5 kts. Sea speed 9 kts.

Notes
The ex-German type transport *Montegrappa* (ex-*KT* 10), NATO Pennant No.: A 5328, was removed from the effective list in 1958.

MOTOR TRANSPORTS (*Mototrasporti*)



MTC 1006 — 1959, *Giorgio Arra*

14 Ex-German MFP Type

MTC 1001	**MTC 1004**	**MTC 1007**	**MTC 1010**	**MTC 1102**
MTC 1002	**MTC 1005**	**MTC 1008**		**MTC 1103**
MTC 1003	**MTC 1006**	**MTC 1009**	**MTC 1101**	**MTC 1104**

Displacement:	240 tons *standard*
Dimensions:	164×21½×5⅜ feet
Guns:	2 or 3—20 or 37 mm.
Machinery:	2 or 3 diesels. B.H.P.: 500=10 kts.

Notes
Moto-Trasporti Costieri. MTC 1001—1010 are Italian MZ (*Motozattere*) type. MTC 1101-1104 are ex-German built in Italy. NATO Pennant Nos.: A 5341 to A 5359, respectively.

20 Ex-U.S. LCM Type

MTM 9901	**MTM 9905**	**MTM 9909**	**MTM 9913**	**MTM 9917**
MTM 9902	**MTM 9906**	**MTM 9910**	**MTM 9914**	**MTM 9918**
MTM 9903	**MTM 9907**	**MTM 9911**	**MTM 9915**	**MTM 9919**
MTM 9904	**MTM 9908**	**MTM 9912**	**MTM 9916**	**MTM 9920**

Displacement:	20 tons *standard*
Guns:	2—20 mm. AA
Machinery:	Diesels. Speed: 11 kts.

Notes
Rated as *Moto-Trasporti Medi*. Former American landing craft of the LCM type.

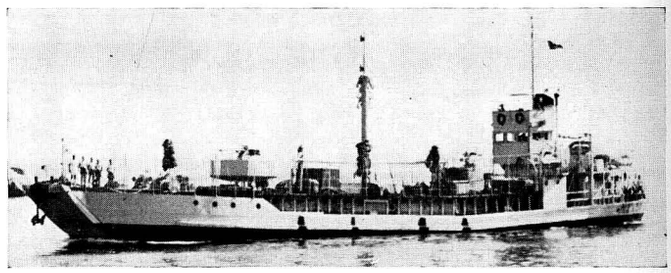
25 Ex-U.S. LCVP Type

MTP 9701	**MTP 9706**	**MTP 9711**	**MTP 9716**	**MTP 9721**
MTP 9702	**MTP 9707**	**MTP 9712**	**MTP 9717**	**MTP 9722**
MTP 9703	**MTP 9708**	**MTP 9713**	**MTP 9718**	**MTP 9723**
MTP 9704	**MTP 9709**	**MTP 9714**	**MTP 9719**	**MTP 9724**
MTP 9705	**MTP 9710**	**MTP 9715**	**MTP 9720**	**MTP 9725**

Displacement:	8 tons *standard*
Guns:	2 M.G.
Machinery:	Diesels. Speed: 12 kts.

Notes
Rated as *Moto-Trasporti Piccoli*. Former American landing craft of the LCVP type. MTB 9726 of 10 tons displacement and similar characteristics is of Italian construction.

REPAIR CRAFT (*Motoofficine Costiere*)



MOC 1201 — 1955, *A. & J. Pavia*

7 Ex-British LCT(3) Type

MOC 1201	**MOC 1203**	**MOC 1205**	**MOC 1208**
MOC 1202	**MOC 1204**	**MOC 1207**	

Displacement:	350 tons *standard* (640 tons *full load*)
Dimensions:	192×31×7 feet
Guns:	2—40 mm., 2—20 mm. (2 ships have 2—40 mm. and 1 ship has 3—20 mm.)
Machinery:	Diesel=8 kts.

Notes
Former British landing craft of the LCT (3) type converted to repair craft. MOC 1207 is a munitions transport. Now carry new NATO Pennant Nos.: A5331 to 5338, respectively.

TRAINING SHIPS (*Navi Scuola*)

AMERIGO VESPUCCI

Displacement:	3,543 tons *standard*
Dimensions:	229½ (*pp.*), 270 (*o.a. hull*), 330 (*o.a.* bowsprit)×51×22 feet
Guns:	4—3 inch, 50 cal.; 1—20 mm.
Machinery:	Two Fiat diesels, with electric drive to 2 Marelli motors. 1 shaft. H.P.: 1,900=10·5 kts.
Complement:	400+150 midshipmen

Notes
Built at Castellammare. Launched on 22 March 1930. Sail area: 22,600 sq. ft. Hull, masts and yards are of steel. Loud speakers and echo-sounding gear are included in her equipment. Photograph in the 1957-58 edition. NATO Pennant No.: A 5312.

PALINURO (ex-*Commandant Louis Richard*)

Displacement:	1,450 tons
Measurement:	858 tons *gross*
Dimensions:	204 (*pp.*), 226½ (*o.a.*)×32×18⅜ feet
Machinery:	Diesel. 1 shaft. B.H.P.: 375=7 kts.

Notes
Barquentine. Ex-French vessel, launched in 1920. Purchased in 1950. Rebuilt and recommissioned in the Italian Navy on 16 July 1955. NATO Pennant No. A 5311. The sail training ship *Ebe* was disposed of in 1960.

1 Ex-German "Daino" Type Corvette

GAZZELLA (ex-*B* 3, ex-*M* 801)

Displacement:	605 tons *standard* (821 tons *full load*)
Dimensions:	224×29½×7¼ feet
Guns:	1—3·9 inch, 47 cal. aft; 3—40 mm. AA., 56 cal.
A/S weapons:	1 Hedgehog, 2 D.C.T.
Machinery:	Triple expansion. 2 shafts. 2,400=14 kts.
Boilers:	2 Schulz-Marine
Oil fuel:	142 tons

Notes
Ex-German coal burning minesweeper. Acquired on 20 July 1949, when she was classed as "Nave Ausiliarie" (Auxiliary Ship) but subsequently converted to burn oil fuel and classed as "Nave Pattuglia" (Patrol Ship). Pennant number painted on bows: M 5338. Reclassified as a minesweeper in 1954. Again reclassified as a coastal escort vessel (*Nave Costiera* on 1 June 1956 and as *Corvette* in 1959, with F pennant number 541. Reclassified as a training ship in 1960 and used for the training of cadets of the Accademia Navale. Sister ship *Antilope* (ex-*B* 1, ex-*M* 328) was removed from the effective list in 1958, and sister ship *Daino* was reclassified as a surveying vessel in 1960 (see earlier page).

LIGHTHOUSE TENDERS
(*Navi addette al Servizio Fari*)

BUFFOLUTO

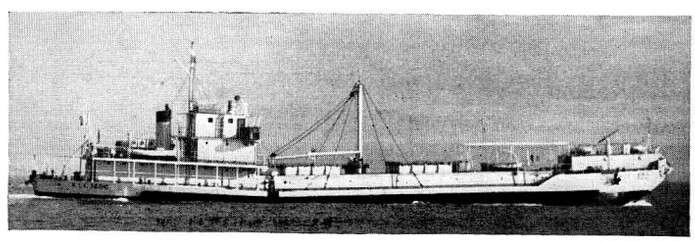
Displacement:	930 tons *standard*
Dimensions:	172½ (*pp.*), 184¼ (*o.a.*)×29½×11 feet
Machinery:	2 triple expansion. I.H.P.: 1,400=10 kts.
Boilers:	2 Thornycroft

Notes
Launched in 1924. NATO Pennant No.: A 5327. Sister ship *Panigaglia* blew up in July 1947.

RAMPINO

Displacement:	350 tons *standard* (645 tons *full load*)
Dimensions:	158¾×24¼×13 feet
Machinery:	Triple expansion=7 kts.

Notes
Buoy tender. Of netlayer type. Classed as *Nave Ausiliarie* with NATO Pennant No. A 5309.



MFT 1302 — *Added 1959, Italian Navy Official*

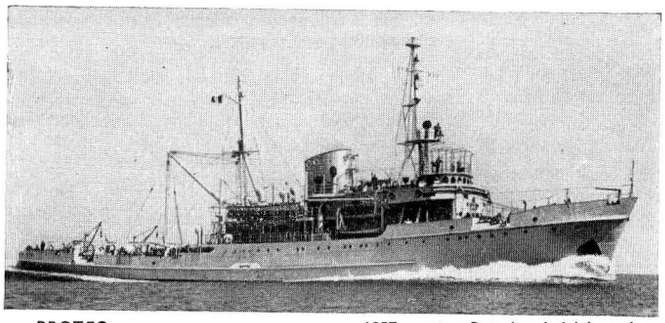
3 Ex-British LCT (3) Type

MTF 1301	**MTF 1302**	**MTF 1303**

Displacement:	296 tons *light* (700 tons *full load*)
Dimensions:	192×31×7 feet
Guns:	1—40 mm., 56 cal. AA., 2—20 mm., 70 cal. AA.
Machinery:	Diesel. 1 shaft. Speed=8 kts.

Notes
Converted landing craft of the British LCT (3) type. Lighthouse motor transports (*Moto-Trasporti Fari*). NATO Pennant Nos.: A 5361, A 5362 and A 5363.

RESCUE AND SALVAGE SHIP (*Nave Salvataggio*)



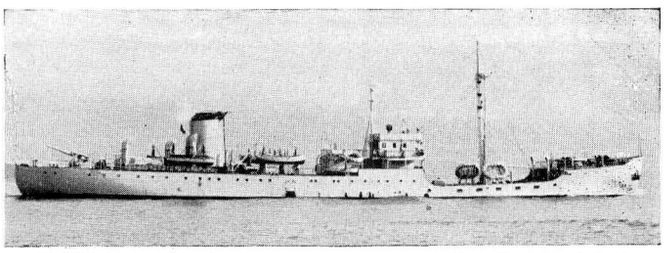
PROTEO 1957, *courtesy Dott. Ing. Luigi Accorsi*

PROTEO (ex-*Perseo*, ex-*Proteo*)

Displacement:	1,865 tons *standard* (2,147 tons *full load*)
Dimensions:	220½ (*pp.*), 248 (*o.a.*) × 38 × 15¾ (*mean*), 21 (*max.*) feet
Guns:	1—3·9 inch AA., 2—20 mm., 65 cal.
Machinery:	2 diesels. B.H.P.: 4,800=16 kts. (see *Notes*)
Radius:	7,500 miles at 13 kts.

Notes
Laid down at Cantieri Navali Riuniti, Ancona, in 1943. Suspended in 1944. Seized by Germans and transferred to Trieste. Construction recommenced at Cantieri Navali Riuniti, Ancona, in 1949. Diesels at 250 r.p.m. drive a single propeller through hydraulic couplings and reduction gearing. NATO Pennant No.: A 5310.

WATER CARRIERS (*Navi Cisterna per Acqua*)



VOLTURNO (new radar mast) 1957, *Italian Navy, Official*

PO **VOLTURNO**

Displacement:	3,336 tons *standard* (6,000 tons *full load*)
Dimensions:	270⅝ × 38¾ × 16¾ feet
Guns:	1—4 inch, 35 cal., 2—40 mm, 2—20 mm. (*Po*), 1—4·7 inch, 45 cal., 2—40 mm., 2—20 mm. AA. (*Volturno*)
Machinery:	Triple expansion. I.H.P.: 1,700=11·5 kts.
Boilers:	2 oil-fired watertube
Oil fuel:	226 tons
Cargo capacity:	2,200 tons

Notes
Po was launched by Cant. Nav. Riuniti, Ancona, on 21 Dec. 1936. *Volturno* was built by Cantieri del Tirreno, Riva Trigoso, in 1936-37, and rebuilding was completed in 1951. *Volturno* has a new radar mast (see photo). NATO Pennant Nos.: A 5365 and A 5366, respectively.

ADIGE (ex-*YW* 92) **ISONZO** (ex-*YW* 77) **TANARO** (ex-*YW* 99)
FLEGETONTE (ex-*YW* 95) **TICINO** (ex-*YW* 79)

Displacement:	463 tons *standard* (1,470 tons *full load*)
Guns:	1—37 mm., 2—20 mm. AA.
Machinery:	2 diesels. H.P.: 315=8 kts.
Water capacity:	850 tons

Notes
Ex-U.S. Army. NATO Pennant Nos.: A 5369, A 5371, A 5372, A 5376 and A 5377, respectively.

SESIA

Displacement:	1,050 tons
Dimensions:	213½ × 33 × 11¼ feet
Guns:	1—37 mm., 2—20 mm. AA.
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 600=8 kts.

Notes
Built by Adriatico. Launched in 1933. Fitted for minelaying. NATO Pennant No.: A 5375

METAURO

Displacement:	592 tons
Dimensions:	133¼ × 26½ × 10½ feet
Machinery:	Tosi diesels. B.H.P.: 400=8 kts.

Notes
Built by C.N. Quarnaro-Fiume. Launched in 1933. NATO Pennant No.: A 5373.

ARNO

Displacement:	634 tons
Dimensions:	138⅜ × 26 × 10 feet
Machinery:	1 Fiat diesel. B.H.P.: 350=8 kts.

Notes
Built by Odero-Terni-Orlando, La Spezia. Launched in 1929. NATO Pennant No.: A 5370.

MINCIO

Displacement:	645 tons
Dimensions:	138½ × 26½ × 10 feet
Guns:	2—20 mm. AA.
Machinery:	Tosi diesels. B.H.P.: 350=8 kts.

Notes
Built in Venice. Launched in 1929. NATO Pennant No.: A 5374.

TIMAVO **VIPACCO**

Displacement:	265 tons
Machinery:	1 Tosi diesel. B.H.P.: 200=8 kts.

Notes
Both built by C.O.M.I., Venezia, 1921-26.

FRIGIDO (ex-*Fukuju Maru*)

Displacement:	398 tons
Dimensions:	116½ × 21½ × 10 feet
Guns:	2 M.G.
Machinery:	Triple expansion. I.H.P.: 221=7 kts.
Boiler:	1 cylindrical

Notes
Built by Osaka. Launched in 1912. Purchased in 1916.

OFANTO

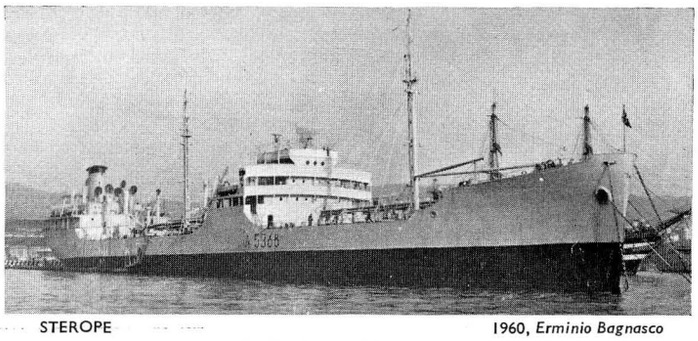
Displacement:	250 tons
Dimensions:	105½ × 19⅔ × 7⅓ feet
Machinery:	1 Triple expansion. I.H.P.: 165=6 kts.
Boilers:	1

Notes
Built by S.E.B., Riva Trigoso, 1913-14.

LENO **SIMETO** **SPRUGOLA** **STURA** **TRONTO**

Notes
Small water carriers of 270, 167, 212, 126 and 110 tons displacement, respectively.

OILERS (*Navi Cisterna per Nafta*)



STEROPE 1960, *Erminio Bagnasco*

1 Ex-U.S. T2 Type

STEROPE (ex-*Enrico Insom*)

Displacement:	5,350 tons *light* (21,800 tons *full load*)
Dimensions:	523½ (*o.a.*) × 68 × 30⅝ feet
Machinery:	Turbo-electric. S.H.P.: 6,000=15 kts.
Boilers:	2 Babcock & Wilcox

Notes
Former United States built oiler of the T 2 type acquired by the Italian Navy in 1959 and entered La Spezia Navy Yard in mid-April 1959 for refitting.

DALMAZIA

Displacement:	2,900 tons *light* (5,000 tons *full load*)
Dimensions:	260 × 32½ × 15¼ feet
Guns:	1—4·7 inch, 2—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,450=10 kts.
Boilers:	2 Thornycroft oil-fired
Cargo:	1,800 tons

Notes
Built by Quarnaro Yard, Fiume, launched in 1922. Formerly classified as a water carrier. Reclassified as a fleet oiler in 1958. NATO Pennant No. : A 5366. Photograph in the 1957-58 to 1959-60 editions.

Recent Disposal
The fleet oiler *Prometeo* was removed from the effective list in 1958.

TUGS (*Rimorchiatori*)

CIRCEO **TAVOLARA**

Notes
Both completed in 1955.

AUSONIA **PANARIA**

Displacement:	240 tons

Notes
Both launched in 1948.

CICLOPE **TITANO**

Displacement:	1,200 tons
Dimensions:	157½ × 32⅝ × 13 feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,000=8 kts.

Notes
NATO Pennant Nos.: A 5319 and A 5320, respectively. *Titano* was launched in 1948. Sister ship *Nereo* was discarded in 1957.

MISENO **MONTE CRISTO**

Displacement:	285 tons

Notes
Former United States Navy harbour tugs.

GAGLIARDO **ROBUSTO**

Displacement:	389 tons *standard* (506 tons *full load*)
Machinery:	I.H.P.: 1,000=8 kts.

Notes
Both launched in 1939. NATO Pennant Nos.: A 5322 and A 5323, respectively.

PORTO EMPEDOCLE

Displacement:	330 tons *standard*
Guns:	1—3 inch
Machinery:	I.H.P.: 500=11 kts.

Notes
Launched in 1934. Employed as a harbour tug.

PORTO FOSSONE **PORTO RECANATI** **PORTO VECCHIO**
PORTO PISANO **PORTO ROSSO** **SALVORE**
PORTO TORRES **TINO**

Displacement:	226 to 270 tons
Dimensions:	88⅜ × 22 × 10 feet
Guns:	1—3 inch
Machinery:	I.H.P.: 600=9 kts.

Notes
All launched in 1936-37, except *Tino*, 1931, Principally employed as harbour tugs.

ATLETA (ex-*LT* 152) **FORTE** (ex-*LT* 159)
COLOSSO (ex-*LT* 214) **TENACE** (ex-*LT* 154)

Displacement:	525 tons *standard* (835 tons *full load*)
Dimensions:	142⅜ × 32⅜ × 11 feet
Machinery:	2 diesel-—electric. H.P.: 690=11 kts.

Notes
Ex-U.S. Army. NATO Pennant Nos.: A 5318, A 5320, A 5321 and A 5324, respectively.

ATLANTE

Displacement:	355 tons
Dimensions:	121½ × 23 × 9 feet
Guns:	1—3 inch
Machinery:	I.H.P.: 900=11 kts.

Notes
Launched in 1928. Sunk by collision in harbour at Genoa in Jan. 1948, but later salvaged. NATO Pennant No.: A 5317.

LIPARI **VENTIMIGLIA**

Displacement:	254 tons (*Lipari*), 230 tons (*Ventimiglia*)
Dimensions:	108¼ × 23 × 7¼ feet (*Lipari*)
Machinery:	H.P.: 500 (*Lipari*)=9 kts., 550 (*Ventimaglia*)=10 kts.

General Notes
Lipari was built in 1917. There are also 55 harbour tugs, ferry tugs, lagoon tugs, numbered tugs and minor tugs.

JAPAN

Administration

Chief of the Maritime Staff, Defence Agency:
Admiral Mitsugu Ihara.

Commander, Self-Defence Fleet:
Vice-Admiral Takao Aso.

Defence Attaché in London:
Captain Yoshio Takahashi

Personnel

March, 1960: 30,068 officers and ratings

New Construction Programmes

New 5-year defence plan calls for the construction in Japan between 1961 and 1965 of two anti-submarine helicopter carrier groups. Each group to consist of 1 helicopter carrier and 7 or 8 screening ships.

Japan plans to build up to 20 submarines.

1960: 1 guided missile destroyer (2,600 tons); 2 submarines (1,560 tons); 2 minesweepers (680 tons); 1 motor torpedo boat (120 tons); 1 oiler (3-500 tons).

1959: 2 frigates (1,450 ton "B" type); 2 submarines; 3 submarine chasers; 2 minesweepers; 1 submarine rescue vessel.

1958: 2 frigates (1,800-ton "A" type) 2 submarine chasers (450 tons); 4 coastal mine sweepers (340 tons); 1 high speed boat (45 tons).

Mercantile Marine

Lloyd's Register of Shipping:
2,775 vessels of 6,276,689 tons *gross*

DESTROYERS

1 New Construction Guided Missile Type

Displacement: 2,600 tons *standard*
Guided Missiles: "Tartar" surface-to-air weapons

Notes
Provided under the 1960 new construction programme. To be equipped with "Tartar" surface-to-air guided missiles supplied from the U.S.A. To be completed in 1963.

2 "Moon" Class
(U.S. "Off-shore" Programme)

	AKIZUKI	TERUZUKI
Name:	*Akizuki*	*Teruzuki*
Pennant No.:	DD 161	DD 162
Builders:	Mitsubishi Zosen Co., Nagasaki	Shin Mitsubishi Jyako Co., Kobe
Laid down:	31 July 1958	15 Aug. 1958
Launched:	26 June 1959	24 June 1959
Completion:	13 Feb. 1960	29 Feb. 1960

Displacement: 2,388 tons *standard*, 2,890 tons *normal*
Dimensions: 377½ (*w.l.*), 387½ (*o.a.*) × 39½ × 13⅛ feet
Guns: 3—5 inch, 54 cal. d.p. (single); 4—3 inch, 50 cal. AA. (two twin)
Tubes: 4—21 inch (quadrupled)
A/S weapons: 2 hedgehogs, 2 Y-guns, 1 rocket launcher, 2 depth charge throwers
Machinery: 2 sets Mitsubishi-Escher-Weiss (*Akizuki*), Westinghouse (*Teruzuki*) geared turbines. 2 shafts. S.H.P.: 45,000=32 kts.
Boilers: 4 Mitsubishi CE type
Complement: 330



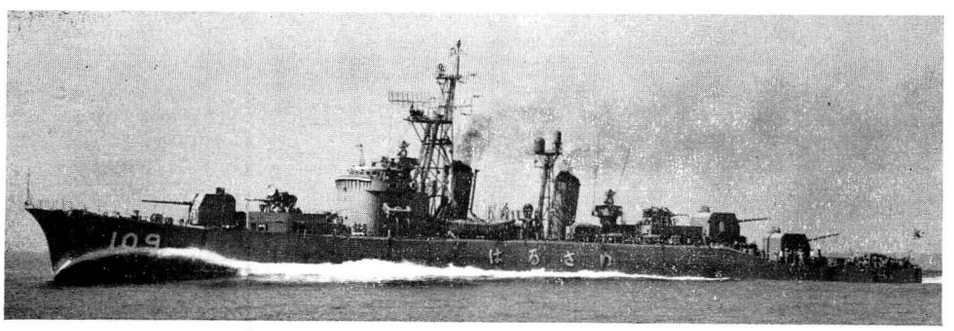
AKIZUKI 1960, *courtesy Mitsubishi Zosen Co., Nagasaki, Builders*

Notes
Destroyers of a new design with a long forecastle hull received from the United States as part of the 1957 United States Military Aid Program, but built in Japanese shipyards under an "off-shore" procurement agreement. They were designed as flotilla leaders to serve as senior officers' ships and are equipped with 2 homing torpedo launchers, two radar systems and two sonar installations. The *Akizuki* is the flagship of the Self-Defence Fleet, Japan's Maritime Self-Defence Force. "Akizuki" means Autumn Moon; "Teruzuki" means Shining Moon.

Anti-Aircraft ("A" Type DDA)
3 "Rain" Class

	HARUSAME	MURASAME	YUDACHI
Name:	*Harusame*	*Murasame*	*Yudach*
Pennant No.:	DD 109	DD 107	DD 108
Builders:	Uraga Dock Co., Yokosuka	Mitsubishi Zosen Co., Nagazaki	Ishikawajima Jyuko Co., Tokyo
Laid down:	17 June 1958	17 Dec. 1957	16 Dec. 1957
Launched:	18 June 1959	31 July 1958	29 July 1958
Completed:	15 Dec. 1959	28 Feb. 1959	25 Mar. 1959

Displacement: 1,800 tons *standard* (2,500 tons *full load*)
Dimensions: 360 × 36 × 12¼ feet
Guns: 3—5 inch, 54 cal. d.p.; 2—3 inch, 50 cal. AA.
A/S weapons: 4 short anti-submarine torpedoes, 1 hedgehog, 2 Y-guns, 1 depth charge rack
Machinery: 2 sets geared turbines. 2 shafts. S.H.P.: 30,000=30 kts.
Boilers: 2



HARUSAME 1960, *courtesy Uraga Dock, Yokosuka, Builders*

General Notes
Murasame and *Yudachi* were built under the 1956 Programme. They are named after the rains. *Harusame* was built under the 1957 Programme. "Harusame" means Spring Rain. "Murasame" means Village Rain or Shower.

Engineering Notes
Murasame has Mitsubishi-Escher-Weiss turbines and Mitsubishi CE type boilers by Mitsubishi, Nagasaki Co.; *Yudachi* has Kanpon-Ishikawajima type turbines and Ishikawajima FW-D type boilers by Ishikawajima Heavy Industry Co.

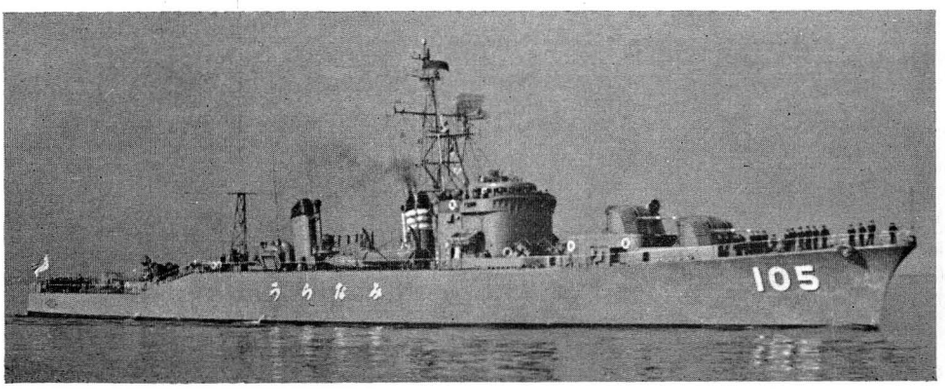
Anti-Submarine ("A" Type DDK)
4 + 3 "Wave" Class

	AYANAMI ISONAMI	SHIKINAMI TAKANAMI	URANAMI

Displacement: 1,700 to 1,720 tons *standard* (2,500 tons *full load*).
Dimensions: 357⅜ (*w.l.*) × 35 1/10 × 11⅞ (*max.*)
Guns: 6—3 inch, 50 cal AA.
Tubes: 4—21 inch (quadrupled). Homing torpedoes, 2 on each beam
A/S weapons: 2 Hedgehogs, 2 Y-guns. Sonar.
Machinery: 2 sets Mitsubishi-Escher-Weiss turbines. 2 shafts. S.H.P.: 35,000 = 32 kts.
Boilers: 2 Mitsubishi-Nagasaki CE type

Programme	*Name*	*Builders*
1955	*Ayanami*	Mitsubishi Zozen Co., Nagazaki
1955	*Isonami*	Shin Mitsubishi Jyuko Co., Kobe
1955	*Shikinami*	Mitsui Zozen Co., Tamano
1957	*Takanami*	Mitsui Zozen Co., Tamano
1955	*Uranami*	Kawasaki Jyuko Co., Kobe
1958	*Onami*	Ishikawajima Jyuko Co., Tokyo
1958	*Makinami*	Iino Jyuko Co., Maizuru

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
DD 103	*Ayanami*	20 Nov. 1956	1 June 1957	12 Feb. 1958
DD 104	*Isonami*	14 Dec. 1956	30 Sep. 1957	11 Mar. 1958
DD 106	*Shikinami*	24 Dec. 1956	25 Sep. 1957	15 Mar. 1958
DD 110	*Takanami*	8 Nov. 1958	8 Aug. 1959	31 Jan. 1960
DD 105	*Uranami*	1 Feb. 1957	29 Aug. 1957	27 Feb. 1958
DD 111	*Onami*	20 Mar. 1959	13 Feb. 1960	Aug. 1960
DD 112	*Makinami*	20 Mar. 1959	25 Apr. 1960	Oct. 1960



URANAMI 1960, *Hajime Fukava*

Notes
The Hedgehog throwers are mounted on turntables before the bridge. Four torpedo loading racks are mounted in pairs abreas: the after funnel. Droppers for anti-submarine homing torpedoes are mounted on the quarter deck. *Ayanami* means "Weave Wave," *Isonami* means "Shore Wave," *Shikinami* means "Spread Wave," *Takanami* means "High Wave" and *Uranami* means "Small Bay Wave."

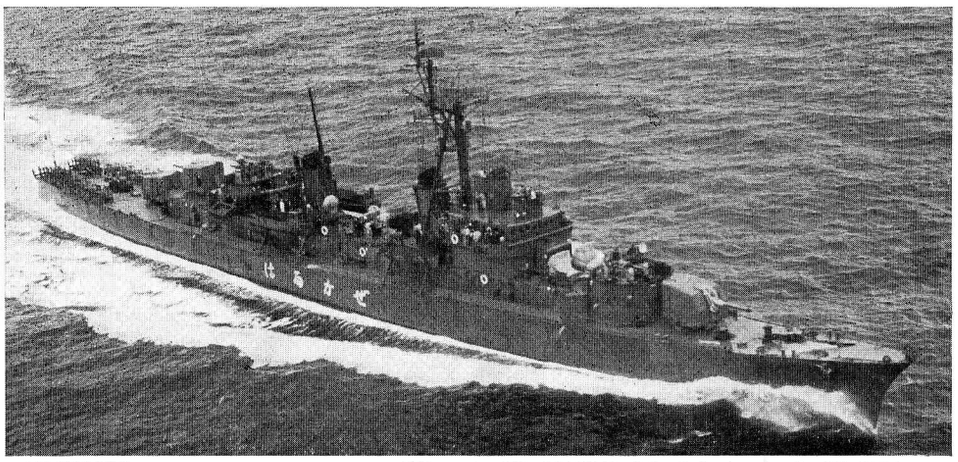
Destroyers—*continued*

2 "Wind" Class

HARUKAZE **YUKIKAZE**

Pennant No.:	DD 101	DD 102
Name:	*Harukaze*	*Yukikaze*
Builders:	Mitsubishi Zosen Co., Nagazaki	Shin-Mitsubishi Jyuko Co., Kobe.
Laid down:	15 Dec. 1954	17 Nov. 1954
Launched:	20 Sept. 1955	20 Aug. 1955
Completed:	26 April 1956	31 July 1956

Displacement: 1,700 tons *standard* (2,340 tons *full load*)
Dimensions: 347¾ (*w.l.*), 358½ (*o.a.*) × 34½ × 12 feet
Guns: 3—5 inch, 38 cal., d.p.; 8—40 mm. U.S. Bofors AA.
A/S weapons: Tubes for short homing torpedoes, 2 hedgehogs, 4 K-guns, 1 depth charge rack
Machinery: *Harukaze*: 2 Mitsubishi-Escher Wyss geared turbines. *Yukikaze*: 2 Westinghouse geared turbines. 2 shafts. S.H.P.: 30,000 = 30 kts.
Boilers: *Harukaze*: 2 Hitachi-Babcock *Yukikaze*: 2 Combustion Engineering
Oil fuel: 557 tons
Radius: 6,000 miles at 18 kts.
Complement: *Harukaze*: 190; *Yukikaze* 187



HARUKAZE 1956, *courtesy Mitsubishi Shipbuilding & Engineering Co. Ltd., Builders*

General Notes
"A" Type DD High Speed Escort Vessels. *Harukaze* and *Yukikaze* were authorised by Congress under 1953 fiscal year programme. Largest and first destroyer hulled vessels built in Japan since the Second World War. Electric welding was extensively adopted in hull construction; development and usage of weldable high tension steel in main hull and light alloy in superstructure are also novel. Nearly all armament supplied from U.S.A. under the MSA clause, *Harukaze* means "Spring Wind," *Yukikaze* means "Snow Wind." Photograph of *Yukikaze* in 1957-58 Edition.

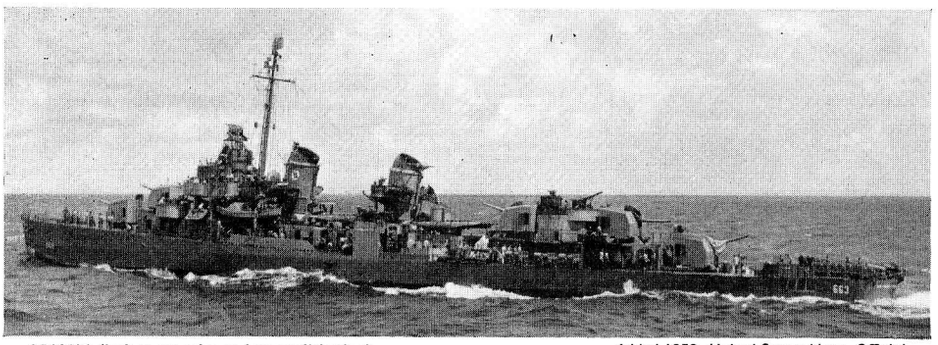
A/S Weapon Notes
Armament was modified in Mar. 1959 when homing torpedo tubes were mounted and depth charge equipment correspondingly reduced.

(Ex-U.S. Later "Fletcher" Type Destroyers)
2 "Twilight" Class

ARIAKE (ex-U.S.S. *Heywood L. Edwards*, *DD* 663)
YUGURE (ex-U.S.S. *Richard P. Leary*, *DD* 664)

Name:	*Ariake*	*Yugure*
Pennant No.:	DD 183	DD 184
Builders:	Boston Navy Yard	Boston Navy Yard
Launched:	6 Oct. 1943	6 Oct. 1943
Completed:	26 Jan. 1944	23 Feb. 1944

Displacement: 2,050 tons *standard* (3,040 tons *full load*)
Dimensions: 376½ (*o.a.*) × 39½ × 18 (*max.*) feet
Guns: 5—5 inch, 38 cal.; 10—40 mm. AA.; 8—20 mm. AA.
Machinery: General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers: 4 Babcock & Wilcox
Complement: 300



ARIAKE (before transfer and reconditioning) *Added* 1959, *United States Navy, Official*

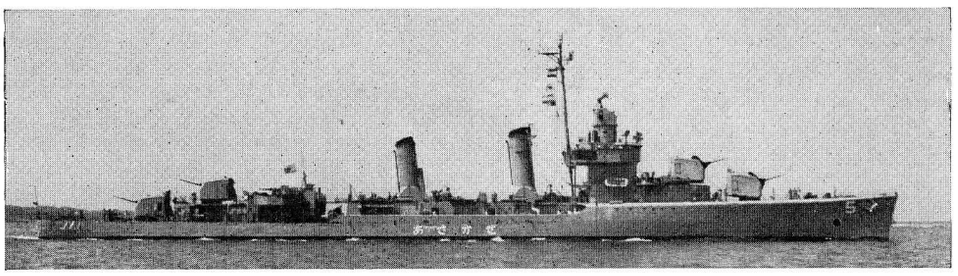
Notes
Former United States destroyers of the Later "Fletcher" class DD. Transferred on loan from the U.S. Navy to the Japanese Maritime Self-Defence Force on 10 Mar. 1959 and towed to Japan for re-conditioning. "Ariake" means Dawn Twilight; "Yugure" means Evening Dusk.

(Ex-U.S. "Gleaves" Type Destroyers)
2 "Breeze" Class

ASAKAZE (ex-U.S.S. *Ellyson*, *DD* 454, ex-*DMS* 19)
HATAKAZE (ex-U.S.S. *Macomb*, *DD* 458, ex-*DMS* 23)

Name:	*Asakaze*	*Hatakaze*
Pennant No.:	DD 181	DD 182
Builders:	Federal S.B. & D.D. Co.	Bath Iron Works Corpn.
Laid down:	2 Dec. 1940	3 Sep. 1940
Launched:	25 July 1941	22 Sep. 1941
Completed:	28 Nov. 1941	26 Jan. 1942

Displacement: 1,630 tons (2,775 tons *full load*)
Dimensions: 341 (*w.l.*), 348½ (*o.a.*) × 36 × 10 (*mean*) 18 (*max.*) feet
Guns: 3—5 inch, 38 cal., d.p.; 8—40 mm. AA.; 4—20 mm. AA.
A/S weapons: 1 or 2 Hedgehogs, 4 K-guns, 2 depth charge racks
Machinery: Geared turbines. 2 shafts. S.H.P.: 50,000=37 kts. (designed). Sea speed approx. 30 kts.
Boilers: 4 Babcock & Wilcox
Complement: 250



ASAKAZE 1956, *Japanese Maritime Self-Defence Force, Official*

Notes
Former United States destroyers of the "Gleaves" class, DD, formerly rated as destroyer minesweepers, DMS. Taken over from the U.S.A. on 19 Oct. 1954. Names mean "Morning Breeze" and "Flag-fluttering Breeze," respectively.

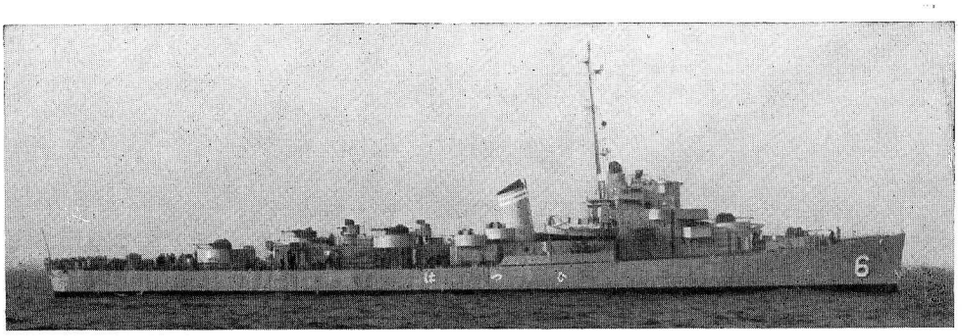
FRIGATES

(Ex-U.S. "Bostwick" Type Destroyer Escorts)
2 "Sun" Class

ASAHI (ex-U.S.S. *Amick*, *DE* 168)
HATSUHI (ex-U.S.S. *Atherton*, *DE* 169)

Name:	*Asahi*	*Hatsuhi*
No.:	DE 262	DE 263
Builders:	Federal Port Newark	Federal, Port Newark
Launched:	26 May 1943	26 May 1943
Completed:	26 July 1943	29 Aug. 1943

Displacement: 1,250 tons (1,900 tons *full load*)
Dimensions: 306 (*o.a.*) × 36⅝ × 10⅔ (*mean*), 12 (*max.*) feet
Guns: 3—3 inch, 50 cal. d.p.; 2—40 mm. AA; 4—20 mm. AA.; and D.C.T.
Machinery: General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000= 20 kts. sea speed
Complement: 220



HATSUHI 1956, *Japanese Maritime Self-Defence Force, Official*

Notes
Former United States destroyer escorts of the "Bostwick" class DE taken over from the U.S. Navy on 14 June 1955. *Asahi* means "Morning Sun"; *Hatsuhi* means "First Sun of the Year."

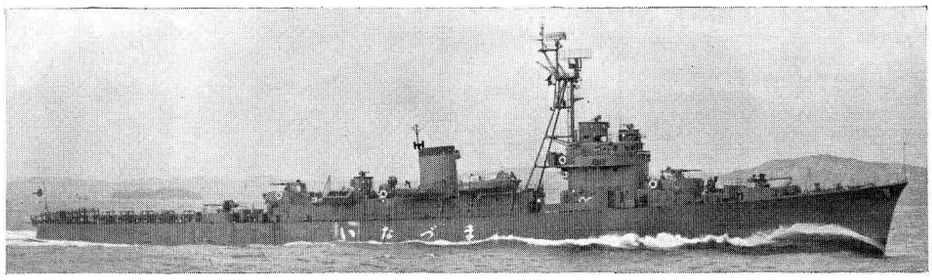
Frigates—*continued*

2 New Construction Destroyer Escort Type (DE)

DE 204 DE 205

Displacement:	1,450 tons *standard* (1,700 tons *full load*)
Dimensions:	260 × 33½ × 11 feet
Guns:	4—3 inch, 50 cal.
Tubes:	8—21 inch A/S
A/S weapons:	"Able" mortar, 1 D.C.T., 1 D.C. rack
Machinery:	2 diesels. 2 shafts. B.H.P.: 16,000 = 25 kts.

Notes
Being built under the 1959 new construction programme by Ishikawajima Jyuko Co., Tokyo, and Iono Jyuko Co., Daizuru, respectively. Two more are projected, DE 206 and ME 207.



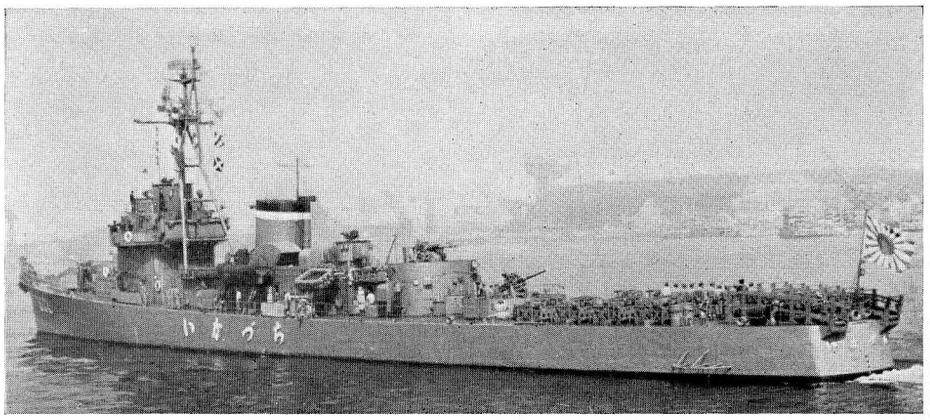
INAZUMA *Added 1959, courtesy Mitsui Shipbuilding and Engineering Co. Ltd., Builders*

Diesel "B" Type DE 2 "Thunder" Class

	IKAZUCHI	INAZUMA
Name:	*Ikazuchi*	*Inazuma*
No.:	DE 202	DE 203
Builders:	Kawasaki Jyuko Co., Kobe	Mitsui Zosen Co., Tamano
Laid down:	18 Dec. 1954	25 Dec. 1954
Launched:	6 Sep. 1955	4 Aug. 1955
Completed	29 May 1956	5 Mar. 1956

Displacement:	1,080 tons *standard* (1,300 tons *full load*)
Dimensions:	287 (*w.l.*) × 28½ × 10¼ feet
Guns:	2—3 inch, 50 cal., d.p.; 4—40 m.m. AA.
A/S weapons:	1 hedgehog, 4 K-guns, 2 depth charge racks
Machinery:	Diesel engines. 2 shafts. B.H.P.: 12,000 = 25 kts.
Radius:	5,500 miles at 15 kts.
Complement:	145 and 156

General Notes
Diesel powered "B" type DE Escort Vessels. Authorised by Congress under 1953 fiscal year programme. Unlike the turbine boat, *Akebono*, see below, which has two funnels, these diesel boats have only one funnel. *Ikazuchi* means "Thunder," *Inazuma* means "Thunderbolt."



IKAZUCHI 1958, *Hajime Fukaya*

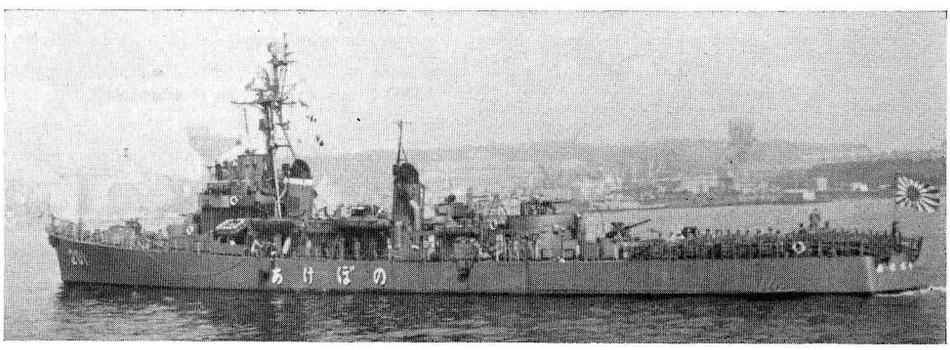
Gunnery Notes
The original 2—3 inch guns and 1—40 mm. gun were removed in Mar. 1959 and replaced by 2—3 inch quick firing guns.

Turbine "B" Type DE 1 "Dawn" Class

AKEBONO

No.:	DE 201
Builders:	Ishikawajima Jyuko Co., Tokio
Ordered:	20 Nov. 1954
Laid down:	10 Dec. 1954
Launched:	15 Oct. 1955
Completed:	20 Mar. 1956

Displacement:	1,075 tons *standard* (1,350 tons *full load*)
Dimensions:	301 (*o.a.*) × 28½ × 11 (*max.*) feet
Guns:	2—3 inch, 50 cal.; 3—40 mm. AA.
A/S weapons:	1 Hedgehog, 4 K-guns, 1 depth charge rack
Machinery:	Ishikawajima geared turbines. 2 shafts. S.H.P.: 18,000 = 28 kts.
Boilers:	2 Ishikawajima—Foster Wheeler type
Complement:	193



AKEBONO 1958, *Hajime Fukaya*

General Notes
Turbine propelled "B" type DE Escort Vessel built under the 1953 Programme. "Akebono" means Dawn.

Gunnery Notes
The original 2—3 inch guns and 1—40 mm. gun were removed in March 1959 when 2—3 inch quick firing guns were mounted and 4 K-guns and 1 D.C. rack removed.

Rated as Radar Picket (Ex-Japanese Escort Destroyer)

WAKABA (ex-*Nashi*)

No.:	DE 261
Builders:	Kawasaki, Kobe
Laid down:	1 Sep. 1944
Launched:	17 Jan. 1945
Completed:	15 Mar. 1945

Displacement:	1,250 tons *standard* (1,560 tons *full load*)
Dimensions:	322¼ (*pp.*), 329¾ (*o.a.*) × 31⅛ × 10⅔ feet
Guns:	2—3 inch AA.
A/S Weapons:	Hedgehog, 2 K-guns, D.C. racks
Machinery:	Turbines. 2 shafts. S.H.P.: 14,000 = 25 kts. Sea speed, 24 kts.
Boilers:	2 Kampon
Oil fuel:	395 tons
Radius:	4,680 miles at 16 kts.
Complement:	206

General Notes
This ship, the old wartime escort destroyer *Nashi*, was built under the War Programme of 1943 as one of the Modified "Matsu" type. She was sunk on 28 July 1945 off Hatajiri Point, Inland Sea, by carrier borne aircraft. She was officially scrapped on 15 Sep. 1945. But she was subsequently raised and repaired and purchased by the Maritime Self-Defence Force. She completed her first reconstruction at Kure Zosen on 12 May 1956, being renamed and commissioned on 31 May. Designated "B" Type DE. Her new name *Wakaba* means "Young Leaf." She was intended to be used as the training ship but she was converted into a radar picket escort vessel or aircraft direction ship. Her second reconstruction commenced on 10 Sep. 1957 and was completed on 26 Mar. 1958. Her lattice foremast and tripod mainmast were stepped in 1958.



WAKABA *Added 1959, courtesy The Uraga Dock Co. Ltd., Yokosuka*

Photograph Notes
Another photograph of this ship after conversion to a radar picket escort vessel, a starboard quarter view, appears in the 1958-59 edition.

Frigates—*continued*

Rated as Frigates

(Ex-U.S. "Tacoma" Type Patrol Escorts)

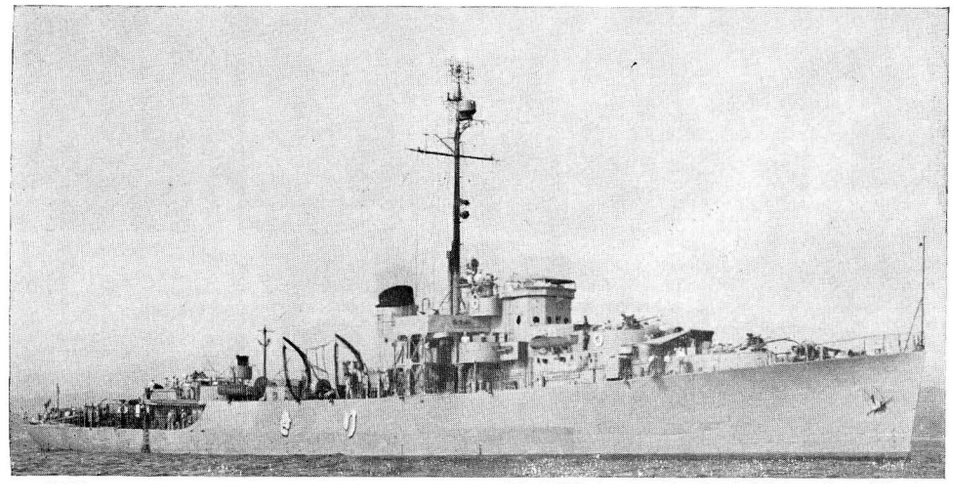
18 "Tree" Class

BUNA (ex-U.S.S. *Bayonne*, *PF* 21)	PF 294
KAEDE (ex-U.S.S. *Newport News*, *PF* 27)	PF 293
KASHI (ex-U.S.S. *Pasco*, *PF* 6)	PF 283
KAYA (ex-U.S.S. *San Pedro*, *PF* 37)	PF 288
KEYAKI (ex-U.S.S. *Evansville*, *PF* 70)	PF 295
KIRI (ex-U.S.S. *Everett*, *PF* 8)	PF 291
KUSU (ex-U.S.S. *Ogden*, *PF* 39)	PF 281
MAKI (ex-U.S.S. *Charlottesville*, *PF* 25)	PF 298
MATSU (ex-U.S.S. *Bath*, *PF* 55)	PF 286
MOMI (ex-U.S.S. *Poughkeepsie*, *PF* 26)	PF 284
NARA (ex-U.S.S. *Machias*, PF 53)	PF 282
NIRE (ex-U.S.S. *Sandusky*, *PF* 54)	PF 287
SAKURA (ex-U.S.S. *Carson City*, *PF* 50)	PF 290
SHII (ex-U.S.S. *Long Beach*, *PF* 34)	PF 297
SUGI (ex-U.S.S. *Coronado*, *PF* 38)	PF 285
TOCHI (ex-U.S.S. *Albuquerque*, *PF* 7)	PF 296
TSUGE (ex-U.S.S. *Gloucester*, *PF* 22)	PF 292
UME (ex-U.S.S. *Allentown*, *PF* 52)	PF 289

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13⅔ (*max.*) feet
Guns:	3—3 inch, 50 cal., d.p.; 2—40 mm. AA.; 9—20 mm. AA.
A/S weapons:	2 hedgehogs, 2 depth charge racks, 8 K-guns
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. (designed). Sea speed 18 kts.
Boilers:	2
Oil fuel:	645 tons
Radius:	9,500 miles at 12 kts.
Complement:	180

Notes

Former American patrol escorts, PF, of the "Tacoma" class. Of similar design to the British frigates of the "River" class. All launched in 1943. Transferred from U.S.A. in 1953. All named after trees. *Keyaki*, with deckhouse added abaft the mainmast, is flagship of the flotilla. Pennant Nos. 1 to 18, superseded by new numbers assigned on 1 Sept. 1957 (see above).



KIRI — *Added* 1957, *Japanese Maritime Self-Defence Force, Official*



NARA — *courtesy Lieut.-Commander G. R. G. Murray, R.N.*

SUBMARINES

2 Projected Improved "Oyashio" Type

Displacement: 1,560 tons

Notes

To be built under the 1960 new construction programme.

Nuclear Powered Type Notes

The Director of the Japanese Defence Agency stated on 5 May 1959 that Japan was studying the possibility of building a nuclear powered submarine. In the meantime, two sister ships of the *Oyashio* would be ordered.

2 New Construction

Displacement:	750 tons
Dimensions:	194¼ × 20⅔ feet
Tubes:	4—21 inch
Machinery:	2 diesels. 2 shafts. B.H.P.: 850=12 kts. (*surface*). 2 electric motors H.P.: 650=14·5 kts. (*submerged*)

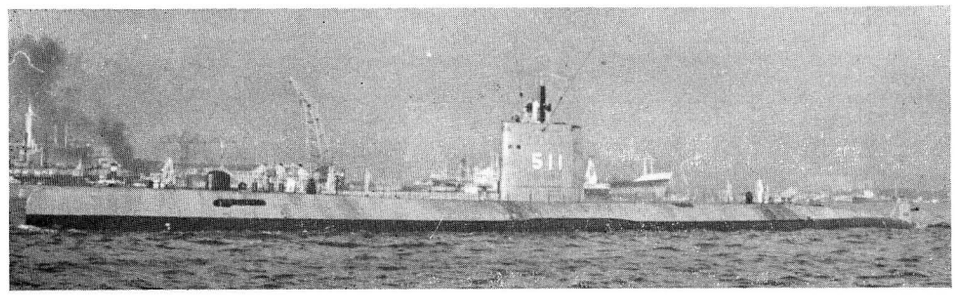
Notes

Medium submarines of a new type designed and built under the 1959 Programme.

1 "Oyashio" Class

OYASHIO

Pennant No.:	SS 511
Builders:	Kawasaki Jyuko Co., Kobe
Laid down:	25 Dec. 1957
Launched:	25 May 1959
Completed:	30 June 1960
Displacement:	1,139 tons *surface* (1,420 tons *submerged*)
Dimensions:	258½ × 23 × 15½ feet
Tubes:	4—21 inch. 10 torpedoes
Machinery:	2 diesels. B.H.P.: 2,700=13 kts. (*surface*) 2 electric motors. S.H.P.: 5,960=19 kts. (*submerged*)
Radius:	5,000 miles at 10 kts.
Complement:	65



OYASHIO (on first trials) — 1960, *Hajime Fukaya*

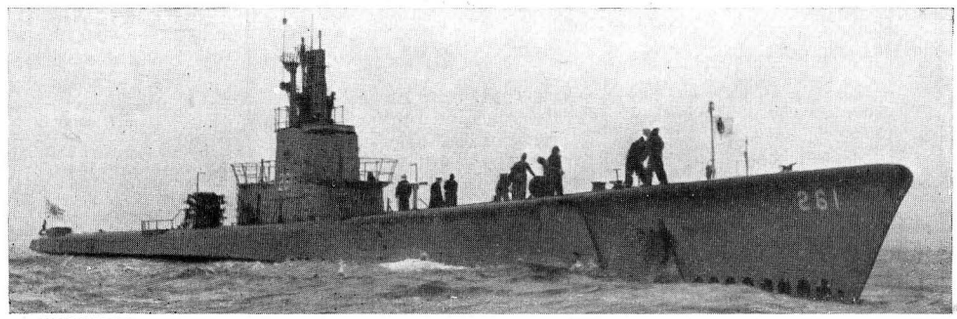
Notes

Of a new type. Built under the 1956 Programme. The first submarine to be built in a Japanese shipyard since the end of the Second World War, and the first Japanese submarine to be fitted with a Schnorkel breathing tube. Completed and delivered to the Japanese Maritime Self-Defence Force on 30 June 1960. She was first estimated to cost £2,718,000, but this figure has since been revised.

1 Ex-U.S. "Gato" Class

KUROSHIO (ex-U.S.S. *Mingo*, *SS* 261)

Pennant No.:	SS 501
Builders:	Electric Boat Co., Groton, Conn., U.S.A.
Laid down:	21 Mar. 1942
Launched:	3 Nov. 1942
Completed:	12 Feb. 1943
Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾ × 27 × 15 feet
Guns:	1—5 inch, 25 cal., d.p.; 2—20 mm. AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	2 General Motors, diesels. B.H.P.: 6,500=21 kts. (*surface*); 2 electric motors. H.P.: 2,750=10 kts. (*submerged*)
Complement:	**85**



KUROSHIO — 1956, *Japanese Maritime Self-Defence Force, Official*

Notes

Former United States submarine of the "Gato" class. Taken over from the U.S. Navy late August 1955. *Kuroshio* means "*Black Current.*"

FAST PATROL VESSELS



OOTAKA — 1960, *courtesy Kure Shipyard, Builders*

Rated as Submarine Chasers (PC)

5 "Mizutori" Class

MIZUTORI 313 — **YAMADORI** 314, 315

Displacement	420 tons *standard*
Dimensions:	196⅝ × 23½ × 7½ feet
Guns:	2—40 mm. (twin)
A/S weapons:	1 Hedgehog, 1 D.C. rack, Homing Torpedoes
Machinery:	2 Kawasaki M.A.N. diesels. 2 shafts. B.H.P.: 4,000=20 kts.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
311	*Mizutori*	Kawasaki, Kobe	13 Mar. 1959	22 Sep. 1959	22 Feb. 1960
312	*Yamadori*	Fujinagata, Osaka	14 Mar. 1959	22 Oct. 1959	15 Mar. 1960
313		Kure Shipyard	16 Dec. 1959	May 1960	Oct. 1960
314		Fujinagata, Osaka	18 Dec. 1959	May 1960	Oct. 1960
315		Sasebo Shipyard	25 Jan. 1960	June 1960	Nov. 1960

Notes

Mizutori and *Yamadori* were built under the 1958 fiscal year programme, others under the 1959 fiscal year programme.

2 "Umitaka" Class

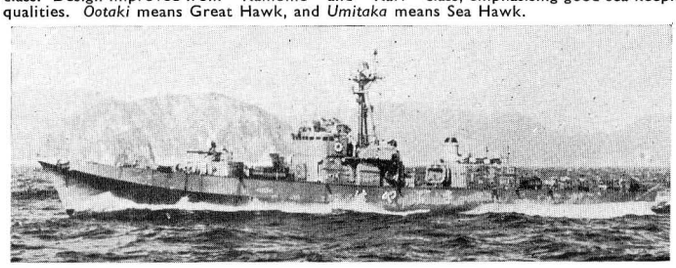
OOTAKA — **UMITAKA**

Displacement:	440 tons *standard*
Dimensions:	196⅝ × 23½ × 7½ feet
Guns:	2—40 mm. (twin)
Machinery:	2 Mitsui B. and W. diesels. 2 shafts. B.H.P.: 4,000=20 kts.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
309	*Umitaka*	Kawasaki, Kobe	13 Mar. 1959	25 July 1959	30 Nov. 1959
310	*OOtaka*	Kure Shipyard	18 Mar. 1959	3 Sep. 1959	14 Jan. 1960

Notes

Built under the 1957 fiscal year programme. Same hull and armament as "Mizutori" class. Design improved from "Kamome" and "Kari" class, emphasising good sea-keeping qualities. *Ootaki* means Great Hawk, and *Umitaka* means Sea Hawk.



HAYABUSA — 1957, *courtesy Mitsubiski Shipbuilding & Engineering Co. Ltd., Builders*

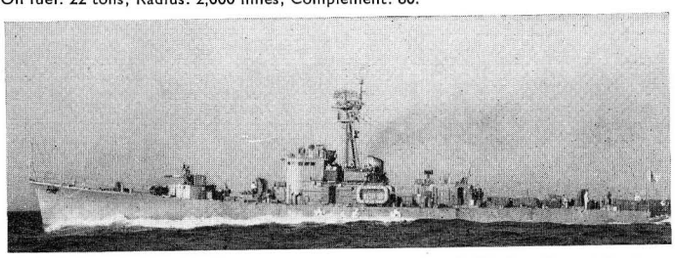
1 Gas Turbine Type

HAYABUSA

Displacement:	370 tons *standard*
Dimensions:	190¼ × 25⅔ × 6⅞ feet
Guns:	2—40 mm. AA. (twin)
A/S weapons:	1 Hedgehog, 2 D.C. throwers, 2 D.C. racks
Machinery:	1 Gas turbine. H.P.: 5,000. 2 diesels. B.H.P.: 4,000=26 kts.

Notes

Authorised under the 1954 fiscal year programme. Pennant No. 308. Built by Mitsubishi Shipbuilding & Engineering Co., Ltd., Nagasaki. Laid down on 23 May 1956. Launched on 20 Nov. 1956. Completed on 10 June 1957. Other particulars (not officially confirmed): Oil fuel: 22 tons; Radius: 2,000 miles; Complement: 80.



KAMOME — 1957, *Japanese Maritime Self-Defence Force, Official*

7 Diesel Type

KAMOME — **MISAGO** — **TSUBAME**
KARI — **TAKA** — **WASHI**
KIJI

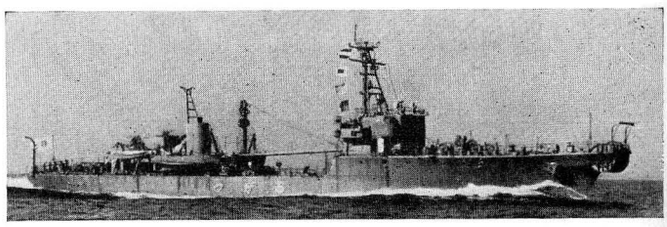
Displacement:	330 tons *standard* (*Kari*, *Kijii*, and *Washi* 310 tons)
Dimensions:	173½ (*o.a.*) × 21⅔ × 6½ feet
Guns:	2—40 mm. (twin)
A/S weapons:	1 hedgehog, 2 K-guns, D.C. Throwers
Machinery:	Diesel (*Kari*, *Kijii*, *Taka* and *Washi*, Kawasaki M.A.N.; others Mitsui Burmeister & Wain). B.H.P.: 4,000=21 kts.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
305	*Kamome*	Uraga, Yokosuka	27 Jan. 1956	3 Sep. 1956	14 Jan. 1957
301	*Kari*	Fujimagata, Osaka	18 Jan. 1956	26 Sep. 1956	8 Feb. 1957
302	*Kiji*	Iino, Maizura	14 Dec. 1955	11 Sep. 1956	29 Jan. 1957
307	*Misago*	Uraga, Yokosuka	27 Jan. 1956	1 Nov. 1956	11 Feb. 1957
303	*Taka*	Fujimagata, Osaka	18 Jan. 1956	17 Nov. 1956	11 Mar. 1957
306	*Tsubame*	Kure Shipyard	15 Mar. 1956	10 Nov. 1956	31 Jan. 1957
304	*Washi*	Iino, Maizuru	14 Dec. 1955	12 Nov. 1956	30 Mar. 1957

Notes

Authorised under the 1954 fiscal year programme. Name *Kamome* means "Seagull." Particulars not officially confirmed: Oil fuel: 21·5 tons; Radius: 2,000 miles at 12 kts.; Complement: 74.

MINELAYERS



TSUGARU — 1956, *Japanese Maritime Self-Defence Force, Official*

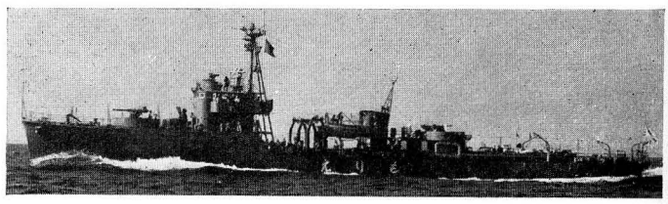
Minelayer and Cable Layer (ARC)

TSUGARU

Displacement:	1,000 tons
Dimensions:	216½ × 34⅛ × 11 feet
Guns:	1—3 inch, 50 cal., d.p.; 2—20 mm. AA.; 4 K-guns
Mines:	4 mine launchers, capacity of 40 mines
Machinery:	Diesel. 2 shafts. B.H.P.: 3,200=16 kts.
Complement:	105

Notes

Dual purpose cable layer and coastal minelayer. Authorised under the 1953 fiscal year programme. Built by Yokohama Shipyard & Engine Works, Mitsubishi Nippon-Heavy Industries, Ltd. Laid down on 18 Dec. 1954. Launched on 19 July 1955. Completed on 15 Dec. 1955.



ERIMO — 1956, *Japanese Maritime Self-Defence Force, Official*

Minelayer and Minesweeper (AMC)

ERIMO

Displacement:	630 tons
Dimensions:	210 × 26 × 8 feet
Guns:	2—40 mm. AA.; 2—20 mm. AA.
A/S weapons:	1 Hedgehog; 1 D.C.
Machinery:	Diesel. 1 shaft. B.H.P.: 2,500=18 kts.
Complement:	74

Notes

Multi-purpose minelayer, ocean minesweeper (non-magnetic) and submarine chaser. Authorised under 1953 fiscal year programme. Built by Uraga Dock Co. Laid down on 10 Dec. 1954. Launched on 12 July 1955. Completed on 28 Dec. 1955.

PATROL VESSELS (*Keibitei*)



FUYO — *Added* 1957, *Japanese Maritime Self-Defence Force, Official*

23 "Flower" Class

AJISAI (ex-*LSSL* 88) 425
AYAME (ex-*LSSL* 115) 410
AZAMI (ex-*LSSL* 27) 419
BARA (ex-*LSSL* 78) 406
BOTAN (ex-*LSSL* 129) 442
FUJI (ex-*LSSL* 75) 405
FUYO (ex-*LSSL* 110) 412
HAMAGIKU (ex-*LSSL* 87) 415
HAMAYU (ex-*LSSL* 68) 439
HIMAWARI (ex-*LSSL* 102) 423
HIIRAGI (ex-*LSSL* 114) 424
ISOGIKU (ex-*LSSL* 106) 416
IWAGIKU (ex-*LSSL* 120) 418
KAIDO (ex-*LSSL* 76) 420
KESHI (ex-*LSSL* 114) 409
NOGIKU (ex-*LSSL* 22) 413
RINDO (ex-*LSSL* 79) 421
SHIRAGIKU (ex-*LSSL* 72) 417
SHOBU (ex-*LSSL* 96) 440
SUIREN (ex-*LSSL* 94) 432
SUMIRE (ex-*LSSL* 14) 407
TSUTSUJI (ex-*LSSL* 101) 422
YAMAGIKU (ex-*LSSL* 82) 414

Displacement:	227 tons *standard* (383 tons *full load*)
Dimensions:	158½ (*o.a.*) × 23¼ × 5⅝ (*max.*) feet
Guns:	6—40 mm. AA.; 4—20 mm. AA. (see notes)
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600=14·5 kts.
Complement:	73

Notes

Former American LSSL's (Landing Ships Support, Large). Transferred from U.S.A. in 1953. All named after flowers. Some boats have 1—3 inch, 50 cal. d.p. instead of twin 40 mm. AA. in "A" position. Pennant Nos. 1 to 50, superseded by new numbers from 401 to 450 assigned on 1 Sep. 1957. Photograph of *Renge* in 1957-58 edition. *Hamagiku* is to be refitted as a "Drone" carrier.

Japan has returned all but 23 of the 50 originally leased *LSSL*'s to the United States to save maintenance costs. These 23 were transferred to Japan under MDAP in Aug. 1959.

Recent Disposals

Akane (ex-*LSSL* 100), *Aoi* (ex-98), *Hagi* (ex-130), *Himejuri* (ex-20), *Kanna* (ex-109), *Karakaya* (ex-67), *Keito* (ex-60), *Kiku* (ex-57), *Kikyo* (ex-119), *Oniyuri* (ex-13), *Renge* (ex-126), *Sasayuri* (ex-52), *Sekichiku* (ex-12), *Suisen* (ex-74), *Suzuran* (ex-25), *Yaguruma* (ex-103), *Yamayuri* (ex-18 and *Yuri* (ex-107) were returned to the U.S.A. in 1958 and *Ezogiku* (ex-*LSSL* 24), *Hasu* (ex-*LSSL* 89), *Hinagiku* (ex-*LSSL* 83), *Ran* (ex-*LSSL* 104), *Sawagiku* (ex-*LSSL* 84), *Shida* (ex-*LSSL* 90), *Susuki* (ex-*LSSL* 58), *Tsuta* (ex- *LSSL* 85) and *Yamabuki* (ex-*LSSL* 116), were returned to the U.S.A. in 1959.

COASTAL MINESWEEPERS

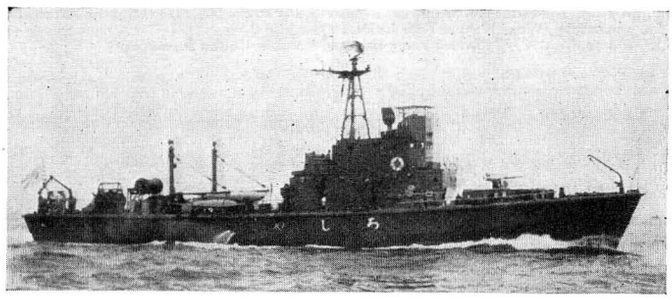
7 + 6 "Kasado" Class

HABUSHI **KANAWA** **KASADO** **KOHZU** **MIKURA** **SAKITO** **SHISAKA** **TATARA** **TSUKIMI**

Displacement: 340 tons
Dimensions: 151 × 27½ × 7½ feet
Guns: 1—20 mm. AA.
Machinery: 2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.

Notes
Anti-magnetic type minesweepers. *Habushi*, *Kanawa* and *Sakito* were ordered under the 1957 Programme. *Sakito* was built by Nippon Steel Tube Co. (Tsurumi Works), *Habishi* and *Kanawa* by Hitachi Shipbuilding Co. (Kanagawa Works of Kawasaki). Four more medium type minesweepers, building Nos. 309, 310, 311 and 312 are being built under the 1958 Programme, and two more under the 1959 Programme.
Kasado and *Shisaka* were ordered under the 1955 Programme. *Kasado* was built by Hitachi, Kanagawa Works, *Shisaka* by Tsurumi, Japan Steel Works. Hull is of wooden construction with form for speed. Otherwise built of non-magnetic materials.

No.	*Name*	*Laid down*	*Launched*	*Completed*
MSC 604	*Kasado*	9 July 1956	19 Mar. 1958	26 June 1958
MSC 605	*Shisaka*	20 July 1956	20 Mar. 1958	16 Aug. 1958
MSC 606	*Kanawa*	25 Aug. 1958	22 Apr. 1959	24 July 1959
MSC 607	*Sakito*	16 Aug. 1958	22 Apr. 1959	25 Aug. 1959
MSC 608	*Habushi*	25 Aug. 1958	19 June 1959	22 Sep. 1959
MSC 609	*Kohzu*	24 Mar. 1959	12 Nov. 1959	26 Feb. 1960
MSC 610	*Tatara*	30 Mar. 1959	14 Jan. 1960	26 Mar. 1960



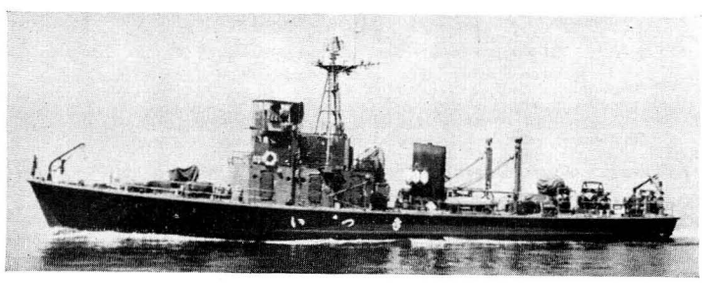
YASHIRO 1957, *Nippon Steel Tube Co. Ltd., Builders*

1 "Yashiro" Class

YASHIRO

Displacement: 230 tons *standard*
Dimensions: 118 (*pp.*) × 22⅔ × 6½ feet
Guns: 1—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 1,200=13 kts.
Complement: 33

Notes
Built under the 1953 Programme by the Nihon Kohan Co., Tsurumi. Officially stated to be of a different type from *Atada* and *Itsuki* (see below).



ITSUKI 1960, *Nippon Steel Tube Co. Ltd., Builders*

2 "Atada" Class.

AT ADA **ITSUK**

Displacement: 240 tons *standard* (260 tons *full load*)
Dimensions: 118 (*pp.*), 123½ (*o.a.*) × 21 × 6¾ feet
Guns: 1—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 1,200=13·5 kts.
Oil fuel: 20 tons
Radius: 2,000 miles at 10 kts.
Complement: 33

Notes
Wood and light metal. Non-magnetic. Authorised under 1953 fiscal year programme. Built by the Hitachi Zozen Co. Named after small islands. A photograph of *Atada* appears in the 1957-58 to 1959-60 editions.

No.	*Name*	*Laid down*	*Launched*	*Completed*
MSC 601	*Atada*	20 June 1955	12 Mar. 1956	30 Apr. 1956
MSC 602	*Itsuki*	22 June 1955	12 Mar. 1956	20 June 1956
MSC 603	*Yashiro*	22 June 1955	26 Mar. 1956	10 July 1956

4 "Yashima" Class

HASHIMA (ex-U.S.S. *AMS* 95)
TOSHIMA (ex-U.S.S. *MSC* 258)
TSUSHIMA (ex-U.S.S. MSC (ex-*AMS* 255)
YASHIMA (ex-U.S.S. *AMS* 144)

Displacement: 375 tons
Dimensions: 138 (*pp.*), 144 (*o.a.*) × 26½ × 8½ feet
Machinery: 2 GM. diesels. B.H.P.: 1,000=14 kts.
Complement: 39

Notes
Wood. Former American *AMS's* (Auxiliary Minesweepers). *Yashima* and *Hashima* were transferred from U.S.A. in 1954 and 1955, respectively. *Tsushima* was transferred from the U.S.A. under MDAP and commissioned in the Japanese Navy on 18 July 1956 at San Francisco. *Toshima* transferred under MDAP in 1957. Nos. MSC 651 (*Yashima*,) 652 (*Hashima*,) 653 (*Tsushima*), 654 (*Toshima*). A photograph of *Yashima* appears in the 1957-58 to 1959-60 editions.

Coastal Minesweepers—*continued*

9 "Ujishima" Class

ETAJIMA (ex-U.S.S. *Firecrest*, *AMS* 10)
MOROSHIMA (ex-U.S.S. *Hummer*, *MSC(o)* 20)
NINOSHIMA (ex-U.S.S. *Lark*, *MSC(o)* 23)
NUWAJIMA (ex-U.S.S. *Heron*, *AMS* 18)
OGISHIMA (ex-U.S.S. *Pelican*, *AMS* 32)
UJISHIMA (ex-U.S.S. *Condor*, *AMS* 5)
YAKUSHIMA (ex-U.S.S. *Osprey*. *AMS* 28)
YUGEJIMA (ex-U.S.S. *Swallow*, *AMS* 36)
YURISHIMA (ex-U.S.S. *Chatterer*, *AMS* 40)

Displacement: 270 tons *standard* (350 tons *full load*)
Dimensions: 136 × 24½ × 8 (*max.*) feet
Guns: 1—40 mm. AA.; 2—20 mm. AA.
Machinery: 2 General Motors diesels. B.H.P.: 1,000=12 kts.
Complement: 39

Notes
Former American "Albatross" class coastal minesweepers of wooden construction, formerly known as auxiliary motor minesweepers (AMS) but reclassified as Minesweepers, Coastal (old) or MSC(o) in Feb. 1955. *Moroshima* and *Ninoshima* were transferred from the United States Navy on loan to Japan under the MDAP on 12 Feb. 1959, the remainder in 1955. All named after small islands around the Japanese homeland. Pennant Nos. 656, 612, 613, 657, 655, 658, 659, 660 and 661, respectively.

INSHORE MINESWEEPERS

10 "Ukishima" Class

AWASHIMA (ex-*MS* 23, ex-No. 138)
HIMESHIMA (ex-*MS* 22, ex-No. 136)
KAMOSHIMA (ex-*MS* 25, ex-No. 152)
KURUSHIMA (ex-*MS* 24, ex-No. 139)
MATSUSHIMA (ex-*MS* 21, ex-No. 135)
OSHIMA (ex-*MS* 29, ex-No. 179)
OTOSHIMA (ex-*MS* 20, ex-No. 134)
TAKASHIMA (ex-*MS* 26, ex-No. 153)
TSURUSHIMA (ex-*MS* 19, ex-No. 84)
UKISHIMA (ex-*MS* 18, ex-No. 31)

Displacement: 238 tons
Dimensions: 105⅔ (*o.a.*) × 20 × 7¾ feet
Machinery: 1 diesel. B.H.P.: 400=10 kts.
Complement: 26

Notes
Wood. Ex-Naval Auxiliary Patrol Boats constructed 1943-1945. Named after small islands around Japanese homeland. Nos. MS1 683, 682, 684, 687, 686, 689, 681, 688, 685, and 680 respectively. Photographs of *Ukishima* and *Otoshima* in 1957-58 edition.

1 "Okichidori" Class

OKICHIDORI (ex-*MS* 68)

Displacement: 189 tons
Dimensions: 125 × 18 × 9½ feet
Machinery: 2 diesels. B.H.P.: 800=14 kts.
Complement: 26

Notes
Former Naval Aircraft Rescue Boat. Of steel construction. Pennant No. MSA.

11 "Chiyozuru" Class

CHIYOZURU (ex-*MS* 01, ex-No. 171)
HATSUTAKA (ex-*MS* 03, ex-No. 222)
HAYATORI (ex-*MS* 15, ex-No. 214)
HIYODORI (ex-*MS* 84, ex-No. 203)
IWATSUBAME (ex-*MS* 13, ex-No. 99)
KAMOZURU (ex-*MS* 06, ex-No. 249)
SHIRATORI (ex-*MS* 17, ex-No. 231)
TOMOZURU (ex-*MS* 16, ex-No. 215)
UMITSUBAME (ex-*MS* 07, ex-No. 72)
YOSHIKIRI (ex-*MS* 02, ex-No. 221)
YUKARI (ex-*MS* 10, ex-No. 88)

Displacement: 130 tons
Dimensions: 95⅔ (*o.a.*) × 18⅜ × 6½ feet
Machinery: 1 diesel. B.H.P.: 400=11 kts.
Complement: 23

Notes
Wood. Ex-Naval Auxiliary Sub-Chasers constructed 1943-1945. All named after birds. Nos. MS1 690 (*Yoshikiri*), 691 (*Kamozuru*), 692 (*Yukari*), 693 (*Tomozuru*), 694 (*Shiratori*), 695 *Chiyozuru*), 696 (*Hatsutaka*), 697(*Umitsubame*), 698 (*Iwatsubame*), 699 (*Hayatori*),700 (*Hiyodori*). Photograph of *Chiyozuru* in 1957-58 edition.

Recent Disposals
Furutaka, *Hakuo*, *Hayataka*, *Kiji*, *Miyakodori*, *Nishikidori*, *Otaka*, *Otori*, *Shirasagi*, *Wakataka*, *Yamabato* and *Yuhibar* of this class were disposed of in 1959.

AUXILIARY MINESWEEPERS

2 "Guinea Pig" Ships

SOEI (ex-*Soei Maru*, *MS* 32)

Displacement: 2,860 tons
Dimensions: 303½ × 42 × 23¼ feet
Machinery: Geared turbine. 1 shaft. S.H.P.: 1,200=11 kts.
Complement: 64

Notes
Ex-wartime 2 TM tanker used as a "guinea pig" in minesweeping. Built Japan Jan. 1945. Rated as a large minesweeper(G.P.).

YUCHIDORI (ex-*MS* 62)

Displacement: 307 tons
Dimensions: 141½ × 20 × 10½ feet
Machinery: Diesel. 2 shafts. B.H.P.: 800=14 kts.
Complement: 36

Notes
Ex-Naval Aircraft Rescue Boat used as a "guinea pig" in minesweeping. Rated as a small minesweeper(G.P.).

MINESWEEPING BOATS

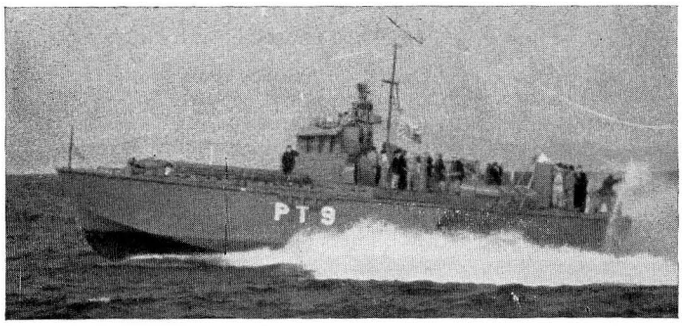
6 Inshore Type

No. 401 **No. 402** **No. 403** **No. 404** **No. 405** **No. 406**

Displacement: 42 tons
Dimensions: 57½ (*w.l.*), 62½ (*o.a.*) × 16 × 4 feet
Machinery: Diesels. 2 shafts. B.H.P.: 640 =10 kts.
Complement: 8

Notes
Three minesweeping boats were built under the New Construction Programme authorised for the 1954 fiscal year, and another for 1955. All launched in Jan. and Feb. 1957 and completed in Feb. and Mar. 1957. Nos. 401 and 402 built by Hitachi, Kanagawa; Nos. 403 and 404 by Nihon Kokan, Tsurumi. Nos. 405 and 406 were built by Nikan Kokan, Tsurumi (Nippon Steel Tube Co., Tsurumi Works). Named *Sokaitei* Nos. 1 to 6, and numbered MSB 701 to706. Laid down in June 1958 and completed in Feb.—Mar. 1959.

FAST PATROL BOATS



PT 9 1958, *courtesy Saunders-Roe (Anglesey) Ltd. Builders*

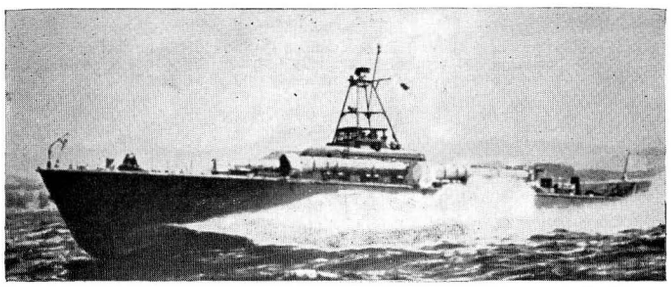
Motor Torpedo Boats (*Gyoraitei*)

1 " Dark " Class

PT 9

Displacement:	64 tons
Dimensions:	71⅓ × 19¾ × 6 feet.
Guns:	1—40 mm. AA.
Tubes:	2—21 inch
Machinery.	2 Napier Deltic diesels. B.H.P.: 5,000=40 kts.
Complement:	15

Notes
Basically similar to the British fast patrol boats (motor torpedo/gun boats) of the " Dark " class. Built by Saunders-Roe (Anglesey) Ltd., Beaumaris, and delivered to Yokosuka Naval Base on 29 July 1957. Accepted into the Japanese Maritime Self-Defence Force on 2 Sep. 1957 and named No. 9 Fast Torpedo Boat

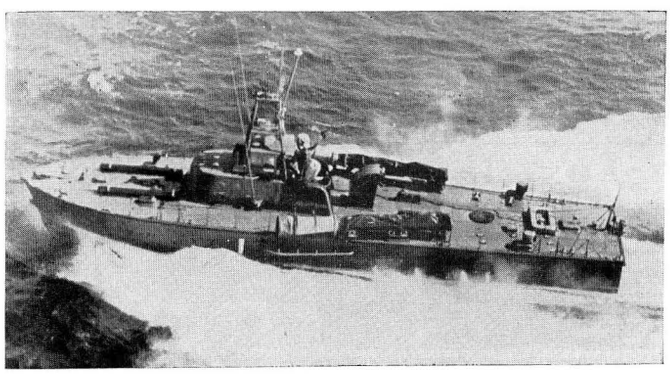


MTB No. 7 1957, *Mitsubishi Shipbuilding & Engineering Co. Ltd.*

No. 7 **No. 8**

Displacement:	104 tons
Dimensions:	112 × 24⅜ × 4 feet
Guns:	2—40 mm. AA.
Tubes:	4—21 inch
Machinery:	3 Mitsubishi diesels. 3 shafts. B.H.P.: 6,000=33 kts.

Notes
Authorised under the 1954 fiscal year programme. Built by Mitsubishi Zosen. Co., Shimonoseki Works. Laid down on 28 and 23 Aug. 1956, respectively, launched on 2 Feb. and 20 July 1957 and completed on 31 Oct. and 15 Nov. 1957.



MTB No.1 1957, *Hitachi Shipbuilding Co., Builders*

No. 1 **No. 2** **No. 3** **No. 4** **No. 5** **No. 6**

Displacement:	70 tons
Dimensions:	82 × 20 × 6 feet
Guns:	1—40 mm. AA.
Tubes:	2—21 inch torpedo launchers
Machinery:	2 diesel engines. B.H.P.: 4,000=31 kts.
Complement:	18

Notes
Authorised under 1953 fiscal year programme. Light metal hull. Builders: Azuma Zosen Co. (Nos. 5 & 6), Hitachi Zosen Co. (Nos. 1 & 2), and Mitsubishi Zosen Co. (Nos. 3 & 4). Numbers 801 to 809 were assigned to PTs (fast patrol boats) on 1 Sep. 1957. Named *Gyoraiteti* Nos. 1 to 9.

MAINTENANCE SHIPS

2 " Miho " Class

MIHO (ex-U.S.S. *FS* 524) **NASAMI** (ex-U.S.S. *FS* 408)

Displacement:	706 tons
Dimensions:	177 × 30 × 10 feet
Machinery:	Diesels. 2 shafts. B.H.P.: 1,000=10 kts.

Notes
Transferred from the United States in 1955. *Nasami* is rated as minesweepers tender (MST). *Miho*, formerly rated as ASS, was refitted as an inshore minesweeper depot ship in August 1959. Photograph of *Nasami* in 1957-58 edition. (It is officially stated that the construction of a new supply and repair ship has been abandoned.)

AMPHIBIOUS VESSELS



LM 3001 1958, *Hajime Fukaya*

Landing Ships (*Yorikutei*)

LSM 3001 (ex-French *LSM* 9013, ex-U.S.S. *LSM* 125)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203¾ (*o.a.*) × 34½ × 5¼ (*beaching*), 8⅓ (*max.*) feet
Guns:	2—40 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement:	60

Notes
LSM 3001 was transferred from the United States Navy to the French Navy in 1954 for use in Indo-China. She was returned by the French in 1957 to the U.S. Navy, and then transferred to the Japanese in 1958. Named *Yorikutei* No. 3001.
(29 landing ships of 772 tons are being acquired from the United States Navy.)

Landing Craft

6 LCU Type

LCU 2001 **LCU 2003** **LCU 2005**
LCU 2002 **LCU 2004** **LCU 2006**

Displacement: 187 tons

29 LCM Type

LCM 1001—1029

Displacement: 22 tons

Notes
55 landing craft comprising six of 187 tons, twenty-nine of 22 tons and twenty of 8 tons were transferred from the United States, 2 June 1955.

AUXILIARIES

Submarine Rescue Vessel (ASR)

Displacement: 1,250 tons

Notes
Building under the 1959 new construction programme.

TOBA

Displacement:	390 tons
Dimensions:	126⅜ × 28 × 12 feet
Machinery:	1 diesel. B.H.P.: 1,200=11 kts.

Notes
AST category. Of wooden construction. Former name was LT 392.

SUMA

Displacement:	115 tons
Dimensions:	70⅓ × 19 × 5 feet
Machinery:	1 diesel. B.H.P.: 600=12 kts.

Notes
ASR category of steel construction. Former name was YTL 749.

TOKUMU 1 **TOKUMU 3** **TOKUMU 7** **TOKUMU 8**

Notes
Rated as ASM. For miscellaneous service (*Tokumu*).

High Speed Boats (*Kosoku*)

KOSOKU 4 **KOSOKU 5**

Displacement:	30 tons
Dimensions:	75½ × 18 × 2½ feet
Machinery:	2 Packard engines. B.H.P.: 2,600=30 kts.

Notes
Of aluminium construction. Laid down on 10 Oct. 1958 and 11 Dec. 1958 at Mitsubishi, Shimonoseki Works under the 1958 Programme, launched on 11 Dec. 1958 and 2 Mar. 1959, and completed on 11 May 1959 and 12 June 1959, respectively. Pennant Nos.: ASH 04 and 05.

KOSOKU 1 **KOSOKU 2** **KOSOKU 3**

Displacement:	30 tons
Dimensions:	65⅜ × 17 × 2⅜ feet
Machinery:	2 petrol engines. B.H.P.: 3,000=42 kts.

Notes
ASH category. Of wooden construction. Former names were YS 01, YS 02, YS 03. All the above are Maritime Self-Defence Force auxiliaries.

KOSOKU 11, 12 **KOSOKU 21, 22, 23, 24, 25, 26**

Displacement:	30 tons
Dimensions:	63¼ × 15½ × 6 feet
Machinery:	2 petrol engines. B.H.P.: 1, 200=33·5 kts.

Notes
Transferred under MAP in 1958-59. Pennant Nos.: ASH 11, 12 and 21-26.

Patrol Boats (*Shokai*)

SHOKAI 1, 2, 3, 4, 5, 6, 7 **SHOKAI 11, 12, 13, 14, 15, 16, 17, 18**

Displacement:	18 Tons
Dimensions:	45½ × 13⅜ × 3½ feet
Machinery:	2 diesels. B.H.P.: 450=16 kts.

Notes
These 18 vessels were transferred to Japan under the MAP programme in 1958.

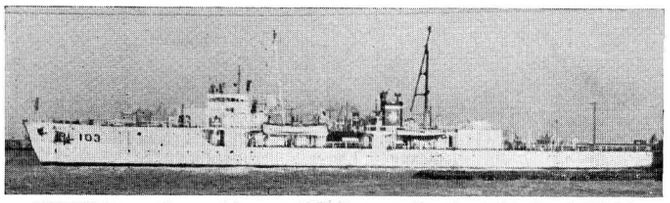
TUGS

Notes
One rescue tug (ATR) was launched in 1956, and another was built at the end of the year.

MARITIME SAFETY BOARD

Personnel: 10,890 as of 1 Jan. 1960

LARGE PATROL VESSELS



ATSUMI (gun on forecastle) 1959, *Japanese Maritime Safety Board, Official*

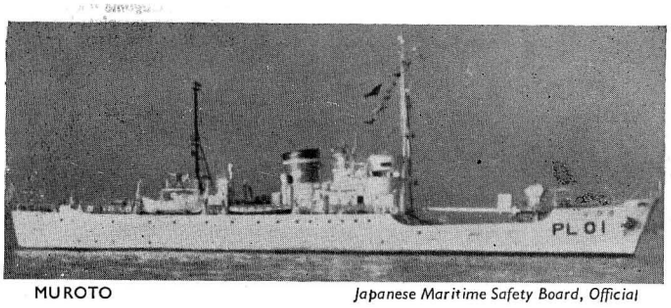
5 "Atsumi" Class (ex-Frigates)

ATSUMI (ex-*Chikubu*) PL 103
KOJIMA (ex-*Shiga*) PL 106
OJIKA (ex-*Ikuna*) PL 102
SATSUMA (ex-*Ukuru*) PL 104
TSUGARU (ex-*Shinnan*) PL 105

Displacement:	940 tons *standard* (1,020 tons *trials*)
Dimensions:	258½ (*o.a.*) × 30 × 10 feet
Guns:	1—3 inch, 50 cal.; 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 3,000 = 18·5 kts.
Radius:	5,000 miles at 16 kts.

Notes

Former naval escorts or frigates of the "Ukuru" class, of the Imperial Japanese Navy. Launched in 1944-45. Now employed both as patrol vessels and as weather ships.



MUROTO *Japanese Maritime Safety Board, Official*

2 "Muroto" Class

DAIO PL 02 **MUROTO** PL 01

Displacement:	750 tons *standard* (840 tons *normal*)
Dimensions:	182 (*pp.*), 200 (*o.a.*) × 30½ × 10½ feet
Guns:	1—3 inch, 50 cal.; 2—20 mm. AA.
Machinery:	2 sets, 4 cycle single acting diesels, 270 r.p.m. B.H.P.: 1,500 = 15·37 kts. (*trials*), 12 kts. (*service*)

Notes

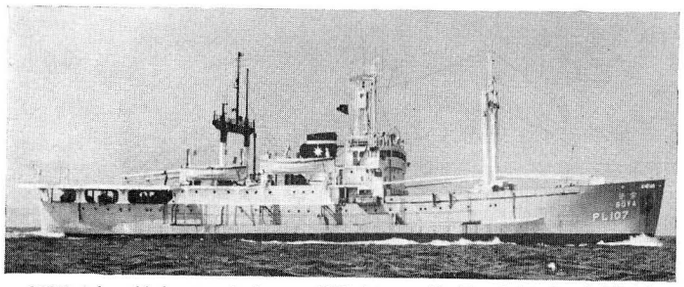
Muroto, built by Uraga Dock Company Ltd., Tokyo, was laid down on 16 Aug. 1949, launched on 5 Dec. 1949, and delivered on 20 Mar. 1950 to the Maritime Safety Board. Rated as Large Patrol Vessels. Vertical tubular donkey boiler, three generators, wireless, radar, direction finder, echo-sounder, etc.; novel streamlined bridge wings.

MIURA PL 101

Displacement:	680 tons *standard* (879 tons *normal*)
Dimensions:	160¾ (*pp.*), 175½ (*o.a.*) × 31¼ × 11¼ feet
Guns:	1—3 inch, 50 cal.; 2—20 mm. AA.
Machinery:	Reciprocating. 2 shafts. I.H.P.: 2,200 = 12 kts.
Boilers:	2

Notes

Former naval tug. Completed on 5 Dec. 1944.



SOYA (after third conversion) 1959, *Japanese Maritime Safety Board, Official*

SOYA PL 107

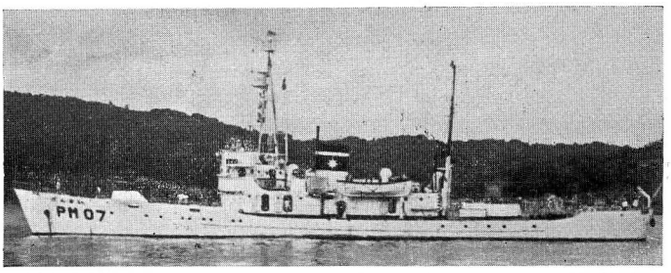
Displacement:	4,364 tons *normal* (4,818 tons *full load*) officially revised figures
Dimensions:	259½ (*w.l.*) × 51⅝ (*including bulge*) × 18⅞ feet
Aircraft:	4 helicopters (see *Notes*)
Machinery:	2 sets diesels. B.H.P.: 4,800 = 12·529 kts. on trials
Radius:	16,400 miles at 11 kts.
Complement:	96

Notes

Originally a large Lighthouse Supply Ship and Navigational Aid Vessel (LL) but converted by Asano Dockyard of Nippon Steel Tube Co. Ltd. into a South Pole Research Ship. Her first conversion began on 12 Mar. 1956 and was completed on 10 Oct. 1956.

The second conversion began on 1 July 1957 and was completed on 30 Sep. 1957. The third conversion was completed on 5 Oct. 1958. She now carries two Sikorsky S—58 helicopters and two Bell 47G-2 helicopters on a new flight platform laid on the quarter deck for exploration and surveying in the Antarctic. She is designed for breaking ice more than 4 feet thick.

MEDIUM PATROL VESSELS



GENKAI *Japanese Maritime Safety Board, Official*

22 "Rebun" Class

CHIBURI	PM 18	**KOZU**	PM 20	**DAITO**	PM 22
KUROKAMI	PM 19	**SHIKINE**	PM 21		

Displacement:	465 tons *standard* (483 tons *normal*)
Dimensions:	169 (*pp.*), 177 (*w.l.*) × 25½ × 8 7/16 feet (*normal*)
Guns:	1—3 inch, 50 cal.; 1—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,300 = 15·8 kts.
Radius:	4,400 miles at 12 kts.

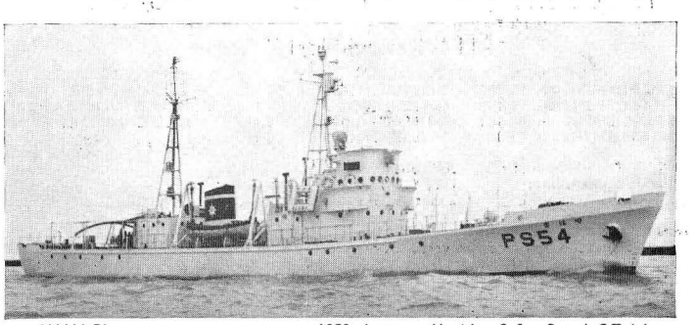
AWAJI	PM 01	**GENKAI**	PM 07	**NOTO**	PM 13
MIYAKE	PM 02	**HACHIJO**	PM 08	**HEKURA**	PM 14
SADO	PM 03	**AMAKUSA**	PM 09	**MIKURA**	PM 15
REBUN	PM 04	**OKUSHIRI**	PM 10	**KOSHIKI**	PM 16
IKI	PM 05	**KUSAKAKI**	PM 11	**HIRADO**	PM 17
OKI	PM 06	**RISHIRI**	PM 12		

Displacement:	PM 01—03: 510 tons *standard* (550 tons *normal*) PM 04—17: 450 tons *standard* (488 tons *trials*, 495 tons *normal*
Dimensions:	PM 04—17, 155½ (*pp.*), 164 (*w.l.*) 170⅜ (*o.a.*) × 26½ × 8½ feet (PM 01—03, 172 (*o.a.*) × 26⅜ × 9½ feet)
Guns:	1—3 inch, 50 cal.; 1—20 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,300 = 15 kts.
Radius:	3,000 miles at 12 kts.

Notes

PM 01-03 were completed in 1950, PM 04-17 in 1951 and PM 18-22 in 1952. Vessels of a new design resembling a United States Coast Guard Cutters.

SMALL PATROL VESSELS



YAHAGI 1959, *Japanese Maritime Safety Board, Official*

8 "Tatsuta" Class

CHITOSE PS 56 **SORACHI** PS 57 **SUMIDA** PS 55 **YAHAGI** PS 54 **YUBARI** PS 58

Displacement:	333·15 tons *standard*, 375·7 tons *normal*
Dimensions:	147½ (*pp.*), 157½ (*w.l.*) × 24 × 7⅜ feet (*normal*)
Guns:	1—40 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,400 = 15·5 kts.
Radius:	4,000 miles at 12 kts.

Notes

All built by Niigata Engineering Co. Ltd. *Yahagi* was laid down on 9 Dec. 1955, launched on 19 May 1956, and completed on 31 July 1956. *Sumida* was completed on 30 June 1957. *Chitose* was laid down on 20 Sep. 1957, launched on 24 Feb. 1958, and completed on 30 Apr. 1958. *Sorachi* was completed in Mar. 1959. *Yubari* was completed on 15 Mar. 1960.

TESHIO PS 53

Displacement:	421·5 tons *normal*
Dimensions:	149⅜ (*pp.*), 159 (*w.l.*) × 23 × 8¼ feet (*normal*)
Guns:	1—40 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 1,400 = 15·71 kts.
Radius:	3,690 miles at 12 kts.

Notes

Built by Uraga Dock Co. Ltd. Laid down on 15 Sep. 1954, launched on 12 Jan. 1955, and completed on 19 Mar. 1955.

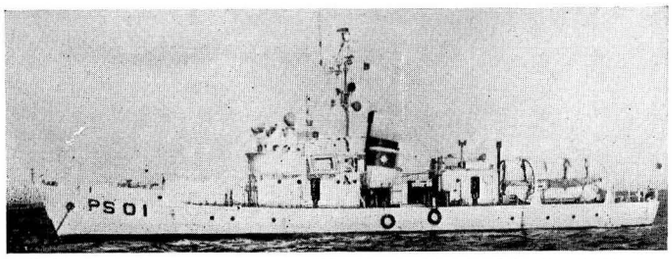
TOKACHI PS 51 **TATSUTA** PS 52

Displacement:	336 tons *standard*, 381 tons *normal* (*Tokachi*) 324 tons *standard*, 369 tons *normal* (*Tatsuta*)
Dimensions:	157½ (*pp.*), 164 (*w.l.*), 170 (*o.a.*) × 21⅝ × 11¼
Guns:	1—40 mm. AA.
Machinery:	2 sets of 4 cycle single acting diesels. B.H.P. 750 = 16 (*max.*) 12 kts. (*service*) (*Tokachi*) 700 = 15 (*max.*) 12 kts. (*service*) (*Tatsuta*)
Radius:	3,824 miles at 12 kts. (*Tokachi*) 3,930 miles at 12 kts. (*Tatsuta*)

Notes

Built by Uraga Dock Co. Ltd. Laid down on 15 Sep. 1954, launched on 12 Jan. 1955, and completed on 19 Mar. 1955.

Small Patrol Vessels—*continued*



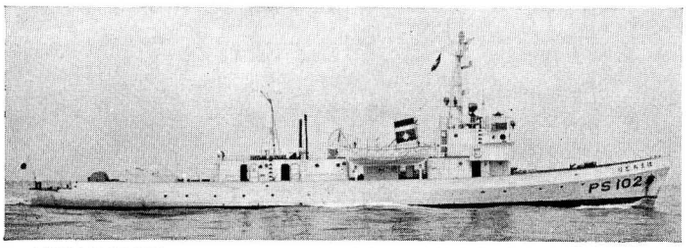
KUMA 1955, *Japanese Maritime Safety Board, Official*

20 " Kuma " Class

KUMA	PS 01	**KUZURYU**	PS 08	**KISO**	PS 14
FUJI	PS 02	**ABUKUMA**	PS 09	**SHINANO**	PS 15
TENRYU	PS 03	**KIKUCHI**	PS 10	**CHIKUGO**	PS 16
ISUZU	PS 04	**MOGAMI**	PS 11	**KUMANO**	PS 17
ISHIKARI	PS 05	**YOSHINO**	PS 12	**NAGARA**	PS 18
SAGAMI	PS 06	**NOSHIRO**	PS 13	**TONE**	PS 19
OYODO	PS 07			**KITAKAMI**	PS 20

Displacement: 258 tons *standard*, 275 tons *normal*
Dimensions: 122 (*pp.*), 126½ (*w.l.*), 132¼ (*o.a.*) × 23 × 7½ feet
Guns: 1—40 mm. AA.
Machinery: 2 sets diesels. B.H.P.: 800=13·6 kts.
Radius: 2,000 miles at 12 kts.

Notes
Kuma was built by Nihon Kokan Co. Ltd., Tsurumi Dockyard, laid down on 29 Sep. 1950, launched on 12 Jan. 1951 and completed on 24 Mar 1951



HAMACHIDORI 1959, *Japanese Maritime Safety Board, Official*

11 " Kawachidori " Class

KAWACHIDORI	PS 101	**TOMOCHIDORI**	PS 105	**MURACHIDORI**	PS 109
HAMACHIDORI	PS 102	**OKICHIDORI**	PS 106	**SHIMACHIDORI**	PS 112
ASACHIDORI	PS 103	**SAWACHIDORI**	PS 107	**HARUCHIDORI**	PS 115
MIOCHIDORI	PS 104	**WAKACHIDORI**	PS 108		

Displacement: 300 tons
Dimensions: 152⅜ (*o.a.*) × 22⅓ × 7½ feet
Machinery: 2 diesels. B.H.P.: 800=14 kts.

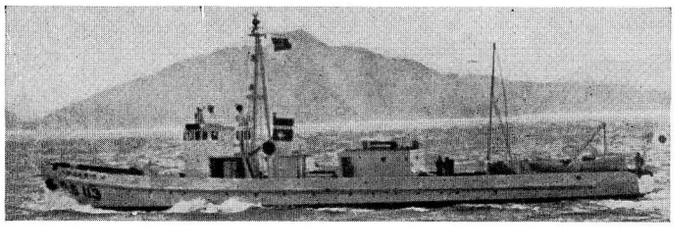
Notes
Former naval aircraft rescue vessels, now employed as local patrol vessels.

15 " Kasasagi " Class

WAKASAGI	PS 122	**HATSUKARI**	PS 131	**UZURA**	PS 140
MANAZURU	PS 123	**HIBARI**	PS 132	**AOSAGI**	PS 141
UGUISU	PS 126	**HATO**	PS 133	**HINAZURU**	PS 142
TSUGUMI	PS 127	**CHIDORI**	PS 134	**HOOJIRO**	PS 143
SEKIREI	PS 128	**KAMOME**	PS 139	**YAMAGARA**	PS 145

Displacement: 112 tons
Dimensions: 95⅝ (*o.a.*) × 18⅝ × 6½ feet
Machinery: 1 diesel. B.H.P.: 400=11 kts.

Notes
Auxiliary Submarine Chaser type, built of wood. *Hibari* is rated as a small minesweeper (WT). *Oshidori, Yamasemi* and *Kotaka* were discarded in 1956, *Kawasemi* and *Shigi* in 1957, *Hayabusa* and *Yamadori* in 1958, *Kasasagi* and *Shirataka* in 1959.



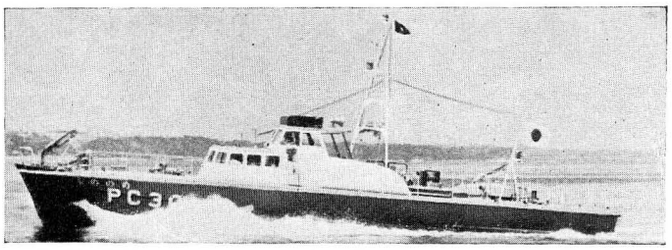
SAYOCHIDORI 1956, *courtesy Lieut.-Com. G. R. G. Murray, R.N.*

8 " Kabashima " Group

KABASHIMA	PS 100	**SAYOCHIDORI**	PS 113	**KOMADORI**	PS 152
NAMICHIDORI	PS 110	**IWACHIDORI**	PS 114	**HAYABUSA**	PS 153
ISOCHIDORI	PS 111	**FUJITAKA**	PS 151		

Notes
Small patrol vessels displacing from 93 to 220 tons. *Jinryu-Maru* was discarded in 1956. PS 151 *Fujitaka*, was formerly *Aichi-Maru*. PS 152 *Komadori*, was formerly *Kojo-Maru*. PS 153 *Hayabusa*, was formerly *Hayabusa-Maru*.

PATROL CRAFT



SHINONOME 1955, *Japanese Maritime Safety Board, Official*

10 " Shinonome " Class

SHINONOME	PC 30	**YAEGUMO**	PC 33	**TATSUGUMO**	PC 36
HATAGUMO	PC 31	**ASAGUMO**	PC 34	**HANAYUKI**	PC 37
MAKIGUMO	PC 32	**NATSUGUMO**	PC 35	**MINEYUKI**	PC 38
				ISOYUKI	PC 39

Displacement: 43 to 46 tons normal
Dimensions: 69 × 17½ × 7⅞ feet (*Hatagumo, Makigumo, Shinonome, Yaegumo*)
69 × 17½ × 8½ feet (*Asagumo, Natsugumo, Tatsugumo*)
Machinery: 2 diesels. B.H.P.: 1,400=21 kts.
2 diesels. B.H.P.: 1,000=18·8 kts. (*Shinonome* only)
Complement: 9

Notes
Hanayuki and *Mineyuki* were completed in Mar. 1959. *Asagumo* and *Natsugumo* were completed on 15 Mar. 1955 and 31 Mar. 1955, respectively. *Tatsugumo* was completed on 31 May 1955. *Isoyuki* was completed on 29 Feb. 1960. All the others were completed before Oct. 1954.



SUZUTSUKI 1953, *Hajime Fukaya*

24 " Hatsunami " Class

HATSUNAMI	PC 01	**CHIYONAMI**	PC 09	**TERUZUKI**	PC 17
AYANAMI	PC 02	**HAYANAMI**	PC 10	**URAZUKI**	PC 18
ISONAMI	PC 03	**HATSUZUKI**	PC 11	**WAKAZUKI**	PC 19
URANAMI	PC 04	**HANAZUKI**	PC 12	**YAMAZUKI**	PC 20
KIYONAMI	PC 05	**KIYOZUKI**	PC 13	**HARUZUKI**	PC 21
OKINAMI	PC 06	**MOCHIZUKI**	PC 14	**NATSUZUKI**	PC 22
TAMANAMI	PC 07	**NIIZUKI**	PC 15	**AKIZUKI**	PC 23
SUZUNAMI	PC 08	**SUZUTSUKI**	PC 16	**FUYUZUKI**	PC 24

Displacement: 45 tons *normal*
Dimensions: 75½ (*o.a.*) × 15⅛ × 3 feet
Machinery: 2 diesels. B.H.P.: 700=14 kts.

Notes
Rated as local patrol boats. Seaward defence patrol craft and small submarine-chaser type.

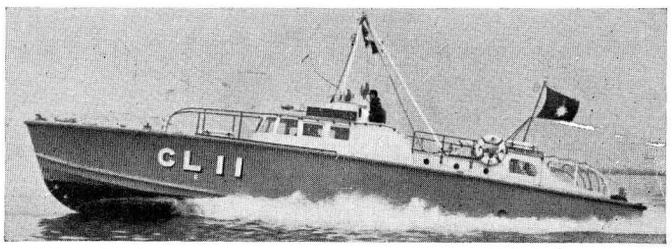
1 " Mutsuki " Type

MUTSUKI PC 25

Displacement: 55 tons *normal*
Dimensions: 83⅜ (*o.a.*) × 16 × 4½ feet
Machinery: 2 diesels. B.H.P.: 1,000=15 kts.

Notes
General purpose vessel rated as a local patrol craft.

Harbour Defence Types

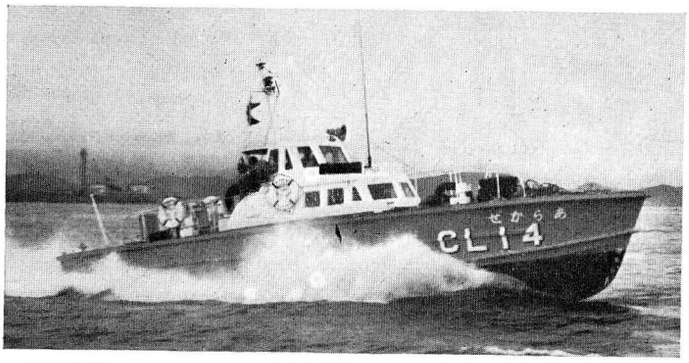


HATSUKAZE 1953, *Hajime Fukaya*

CL 01 to **CL 158**

Notes
58 harbour patrol boats of various types ranging from 14 to 106 tons displacement.

Patrol Craft—*continued*



ARAKAZE — *Added 1958, Japanese Maritime Safety Board, Official*

Coastal Launch Type

ARAKAZE CL 14
HARUKAZE CL 15
HATAKZE CL 17
IWAKAZE CL 19
MATSUKAZE CL 18
SACHIKAZE CL 16

Displacement:	16 tons *normal*
Dimensions:	49½ × 13¾ × 6½ feet
Machinery:	2 diesels. B.H.P.: 440=20·5 kts.

Notes

Arakaze is constructed of light alloy, welding having been used for approx. 40 per cent of the hull; she was laid down on 11 Nov. 1953, launched on 11 Feb. 1954 and completed on 29 Mar. 1954. *Harukaze*, *Hatakaze*, *Iwakaze*, *Matsukaze* and *Sachikaze* are of wooden construction.



ISOGIKU CS 62 — 1960, *Japanese Maritime Safety Board, Official*

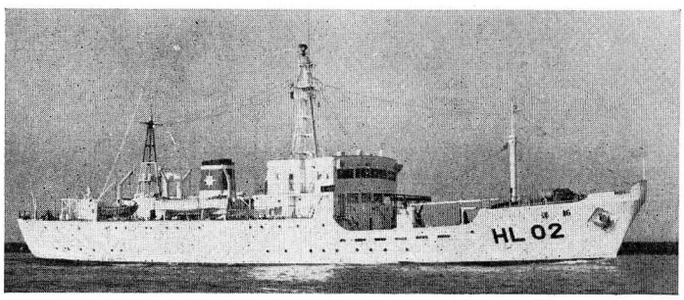
Service Types

CS 01 to **CS 127**

Notes

80 small craft of various displacements. There are also 7 CF boats (fire-fighting) and 19 CR boats (rescue).

SURVEYING VESSELS



TAKUYO — 1958, *Japanese Maritime Safety Board, Official*

1 "Takuyo" Class

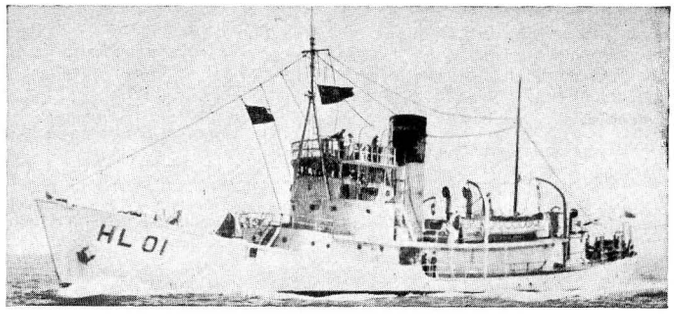
TAKUYO HL 02

Displacement:	Approx. 880 tons *standard*, 930 tons *normal*
Dimensions:	185 (*pp.*), 192¾ (*w.l.*) × 31⅛ × 10¾ feet (*normal*)
Machinery:	2 sets diesels. B.H.P.: 1,300=14 kts. (*max.*)
Radius:	8,000 miles at 12 kts.

Notes

Built for the Maritime Safety Board by Niigata Engineering Co. Ltd. Laid down on 19 May 1956, launched on 19 Dec. 1956, and completed in March 1957. Equipped with a wide range of surveying equipment.

Surveying Vessels—*continued*



MEIYO — 1955, *Japanese Maritime Safety Board, Official*

1 "Meiyo" Class

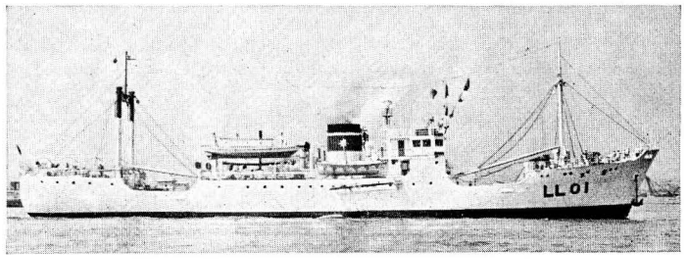
MEIYO HL 01

Displacement:	630 tons
Dimensions:	144⅜ × 27 × 14 feet
Machinery:	H.P.: 1,400
Radius:	3,500 miles at 10 kts.

Notes

Purchased from the Kyokuyo Whaling Co. Ltd., on 28 Mar. 1953. Former whaling ship, now converted into a survey vessel. Formerly named *Meiyo-Maru*.
There are also 3 HM's and 19 HS's, ranging from 5 to 7 tons.

TENDERS



WAKAKUSA — 1958, *Japanese Maritime Safety Board, Official*

Navigation Aid Vessel (Lighthouse Tender)

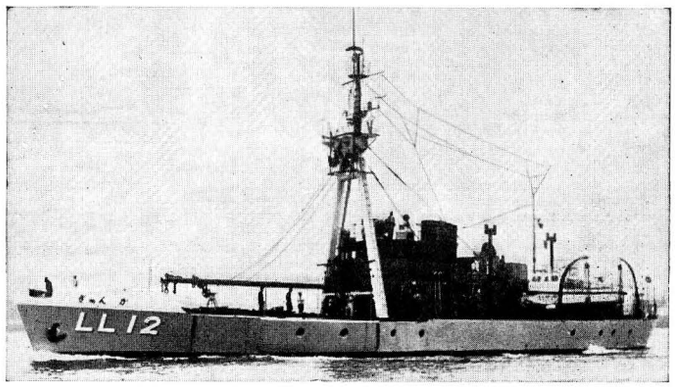
1 "Wakakusa" Class

WAKAKUSA LL01

Displacement:	1,815 tons
Dimensions:	204 × 32½ × 19⅛ feet
Machinery:	H.P.: 1,850

Notes

Built by Hitachi Innoshima Dockyard in Mar. 1946. Purchased from Osaka Shosen Kaisha in Jan. 1956.



GINGA — 1955, *Japanese Maritime Safety Board, Official*

Navigation Aid Vessels (Buoy Tenders)

3 "Ginga" Class

GINGA LL 12
HOKUTO LL 11
KAIO LL 13

Displacement:	500 tons
Dimensions:	128¾ × 31½ × 13¾ feet
Machinery:	2 diesels. B.H.P.: 420=11·26 kts.
Radius:	2,800 miles at 10 kts.

Notes

Ginga was built by Osaka Dock Yard, laid down on 11 Nov. 1953, launched on 6 May 1954, and completed on 30 June 1954. Equipped with 15 ton derrick for laying buoys.
In addition to the above, there are also 6 LM's and 79 LS's for navigation aid services.

KOREA

Administration

On 5 Mar. 1955 the Republic of Korea Navy assumed all responsibility for sea defence for the first time since the Korean War began, taking over from the United States Far East Naval Command.

Defence Minister: Kim Chung Yul.

Chief of Naval Operations:
Vice-Admiral Lee, Young Woon.

Commander-in-Chief of Fleet:
Rear Admiral Lee, Hi Jung.

Naval Attaché in London:
Colonel I. W. Chung.

Ships

The Korean Navy is to have 79 ships on completion of the augmentation programme.

Personnel

1960: 2,000 officers, 500 midshipmen, 14,100 men, Total 16,600

FRIGATES

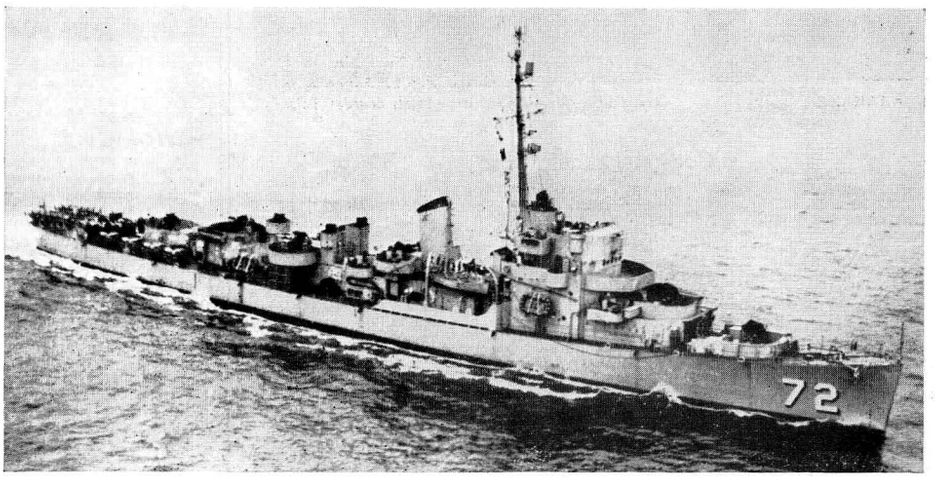
2 Ex-U.S. " Bostwick " Type Destroyer Escorts

KANG WON (ex-U.S.S. *Sutton*, *DE* 771)
KYONG KI (ex-U.S.S. *Muir*, *DE* 770)

Name:	*Kang Won*	*Kyong Ki*
Pennant No.:	DE 72	DE 71
Builders:	Tampa S.B. Co.	Tampa S.B. Co.
Launched:	6 Aug. 1944	4 June 1944
Completed:	22 Dec. 1944	30 Aug. 1944

Displacement: 1,240 tons *standard* (1,900 tons *full load*)
Dimensions: 306 (*o.a.*) × 36⅝ × 10⅔ (*mean*), 14 (*max.*) feet
Guns: 3—3 inch, 50 cal d.p.; 2—40 mm. AA.; 4—20 mm. AA.
Machinery: General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000= 20 kts. sea speed
Oil fuel: 300 tons
Radius: 11,500 miles at 11 kts.
Complement: 220

Notes
Former American destroyer escorts, DE, of the " Bostwick " class. Transferred from the United States Navy at Boston in 1956 under the Mutual Defense Assistance Program. The 3—21 inch torpedo tubes originally mounted were removed. Named after Korean States.



KANG WON — 1958, *Korean Navy. Official*

4 Ex-U.S. " Tacoma " Type Patrol Vessels (Frigates)

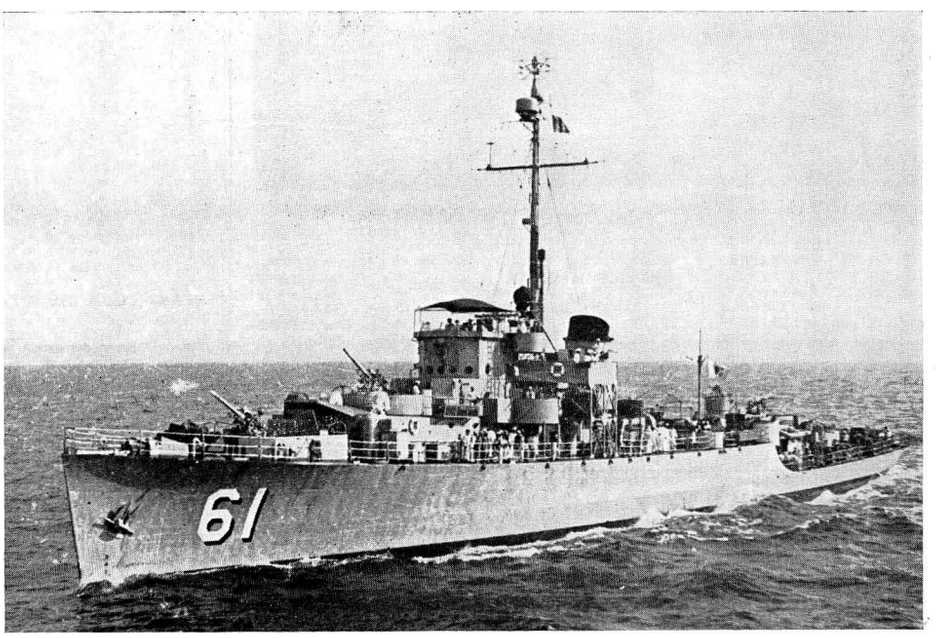
IMCHIN (ex-U.S.S. *Sausalito*, *PF* 4)
DUMAN (ex-U.S.S. *Muskogee*, *PF* 49)
NAKTONG (ex-U.S.S. *Hoquiam*, *PF* 5)
TAEDONG (ex-U.S.S. *Tacoma*, *PF* 3)

Displacement: 1,430 tons *standard* (2,415 tons *full load*)
Dimensions: 304 (*o.a.*) × 37½ × 13¾ (*max*) feet
Guns: 3—3 inch, 50 cal., d.p., 2—40 mm., 9—20 mm. AA.
Machinery: Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. Sea speed 18 kts.
Boilers: 2
Oil fuel: 645 tons
Radius: 9,500 miles at 12 kts.
Complement: 180

Notes
Former United States frigates, PF, of the " Tacoma " class. Transferred to Russia under the Lend-Lease scheme during the Second World War. Returned to the U.S. Navy after hostilities and laid up at Yokosuka naval base. Reactivated on outbreak of Korean War. First pair loaned to ROK Navy and commissioned 5 Nov. 1950. Second pair transferred to South Korean Navy on 8 Oct. 1951 at Yokosuka. *Apnok*, ex-U.S.S. *Rockford* (*PF* 48) in collision on 21 May 1952, decommissioned, returned to the U.S.N. and expended as target in 1953. Replaced by *Imchin*.

Pennant No.	*Name*	*Builders*
PF 61	*Duman*	Consolidated Steel Corpn.
PF 65	*Naktong*	Permanente Metals Corpn.
PF 63	*Taedong*	Permanente Metals Corpn.
PF 66	*Imchin*	Kaiser Cargo Inc.

Name	*Laid down*	*Launched*	*Completed*
Duman	18 Sep. 1943	18 Oct. 1943	16 Mar. 1944
Naktong	10 Apr. 1943	31 July 1943	8 May 1944
Taedong	10 Mar. 1943	7 July 1943	6 Nov. 1944
Imchin	7 Apr. 1943	20 July 1943	4 Mar. 1944



DUMAN — 1958, *Korean Navy, Official*

ESCORT VESSELS

4 Ex-U.S. " 180 ft." Steel PCEC Type Patrol Vessels (Escorts) Control

HANSAN PCEC 53 (ex-U.S.S. *PCEC* 873)
OKPO PCEC 55 (ex-U.S.S. *PCEC* 896)
MYYONG RYANG PCEC 52 (ex-U.S.S. *PCEC* 896)
RO RYANG PCEC 51 (ex-U.S.S. *PCEC* 882)

Displacement: 640 tons *standard* (967 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.a.*) × 33¾ × 10 (*max.*) feet
Guns: 1—3 inch, 50 cal., d.p.; 3—40 mm. AA.; 8—20 mm. AA.
Machinery: Diesels. 2 shafts. B.H.P.: 2,000=14·3 kts. sea speed
Oil fuel: 260 tons
Radius: 4,300 miles at 10 kts.
Complement: 90

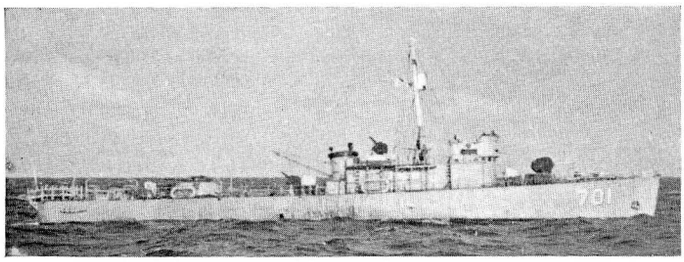
Notes
Former American patrol vessels, escort, PCE, later redesignated control escorts, PCEC, on assignment to amphibious forces. On loan from United States Navy. Transferred in Feb. 1955 (*Myong Ryang* and *Ro Ryang*) and 1956 (*Hanson* and *Okpo*). Built in 1942-45 by Williamette Iron & Steel Corpn., Portland, Oregon (*Myong Ryang* and *Okpo*) and Albina Engine and Machine Works, Portland, Oregon (*Hansan* and *Ro Ryang*).

Submarine Notes
It is reported that Korea will acquire her first submarine in 1960 through U.S. aid.



HANSAN — 1959, *Korean Navy, Official*

PATROL VESSELS



PAKTUSAN 1958, *Korean Navy, Official*

5 Ex-U.S. "173 ft." Steel PC Type

PAKTUSAN PC 701 (ex-*Ensign Whitehead*, ex-*PC 823*)
SAMKAKSAN PC 703 (ex-*PC 802*)
HANLASAN PC 705 (ex-*PC 485*)
KUMKANGSAN PC 702 (ex-*PC 802*)
MYOHYANGSAN PC 706 (ex-*PC 600*)

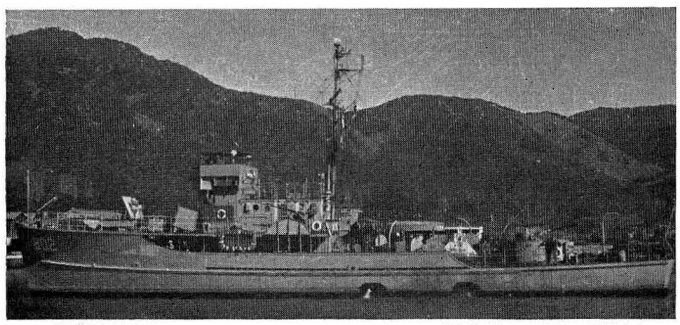
Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 10¾ (*max.*) feet
Guns:	1—3 inch, 50 cal., d.p.; 1—40 mm. AA.; 2—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,880=20 kts.
Complement:	80

Notes

Former United States submarine chasers, PC, of steel construction built in 1941-42. *Paktusan* is a former United States Merchant Marine Academy's training ship. She was purchased by the 7,500 officers and men of the South Korean Navy in Sep. 1949, at a cost of $18,000 and fitted with guns at Pearl Harbour in Jan. 1950, preparatory to sailing for Chinhae, Korea, Naval Base. Three other converted *PC* boats for the South Korean Navy were at Honolulu on the outbreak of war in Korea. *Chirisan*, *PC* 704, was mined and sank off Wonsan, Korea, on 26 Dec. 1951.

New Construction

It is reported that South Korea is to design and construct a diesel-powered patrol boat, mounting machine guns, in 1960.



KUMSEONG 1959, *Korean Navy, Official*

4 Ex-U.S. "136ft." Wooden PCS Type

SUSEONG PCS 201 (ex-*PCS 1426*)
MOKSEONG PCS 203 (ex-*PCS 1446*)
KUMSEONG PCS 202 (ex-*PCS 1445*)
HWASEONG PCS 205 (ex-*PCS 1443*)

Displacement:	251 tons *standard* (338 tons *full load*)
Dimensions:	130 (*w.l.*), 136 (*o.a.*) × 24½ × 8½ feet
Guns:	1—40 mm. 2—20 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 800=14 kts.

Notes

Former United States Submarine Chasers of the *PCS* type, of wooden construction, built in 1943-44. Acquired by Korea in 1952. *Kaesong PCS 504*, *Kilchu PCS 514* and *PCS 518* (ex-*YMS* of same numbers) used as gunboats, were de-commissioned in 1955-56.

FAST TRANSPORTS

Ex-U.S. Modified Destroyer Escort

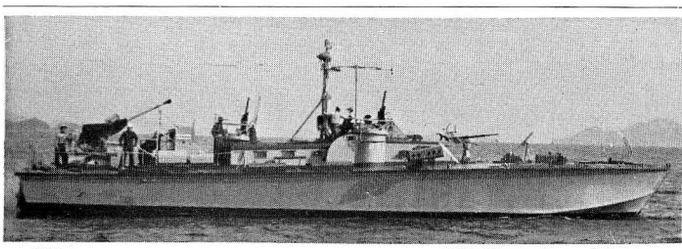
KYUNG NAM (ex-U.S.S. *Cavallaro*, *APD 128*, ex-*DE 712*)

Displacement:	1,400 tons *standard*, 1,650 tons *trials* (2,130 tons *full load*)
Dimensions:	300 (*w.l.*), 306 (*o.a.*) × 37 × 12⅔ (*max.*) feet
Guns:	1—5 inch, 38 cal. d.p.; 6—40 mm. AA.
Machinery:	General Electric turbines with electric drive. 2 shafts. S.H.P.: 12,000=23·6 kts. (*trials*)
Boilers:	2 "D" Express
Oil fuel:	350 tons:
Radius:	5,500 miles at 15 kts.
Complement:	204, plus 162 troops

Notes

Former American high speed transport, APD, modified destroyer escort. Transferred to Korea under the Mutual Defense Assistance Program in 1959. Built by the Defoe Shipbuilding Co., Bay City, Mich. Laid down on 28 Mar. 1944. Launched on 15 June 1944. Completed on 13 Mar. 1945. Pennant No. 81.

MOTOR TORPEDO BOATS



JEBI 1959, *Korean Navy, Official*

3 Ex-U.S. PT Type

JEBI PT 27 (ex-U.S.S. *PT 620*)
KALMAEKI PT 23 (ex-*PT 616*)
KIROKI PT 25 (ex-*PT 619*)

Displacement:	33 tons *standard* (56 tons *full load*)
Dimensions:	80¼ × 20⅔ × 5 feet
Guns:	1—40 mm., 1—20 mm., 8 M.G.
Tubes:	4 torpedo launching racks
Machinery:	Packard. 3 shafts. B.H.P.: 4,050=41 kts. (designed)
Complement:	17

Notes

Former United States Navy motor torpedo boats of plywood hull construction built by the Electric Boat Co., Bayonne, N.J. in 1945. Transferred to the Republic of Korea Navy in Jan. 1952. *Olpamei PT 26* (ex-U.S.S. PT 613) was destroyed in Sep. 1952 while on loan to the Republic of Korea.

COASTAL MINESWEEPERS

3 Ex-U.S. MSC Type

KO HUNG MSC 523 (ex-*MSC 285*)
KUM KOK MSC 525 (ex-*MSC 286*)
KUM SAN MSC 522 (ex-*MSC 284*)

Displacement:	320 tons *standard* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 9 (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Complement:	40

Notes

Newly built coastal minesweepers, MSC, of the American "Bluebird" class specially built by the U.S.A. for foreign countries under the Military Assistance Program. *Ko Hung* and *Kum San* were transferred from the U.S. Navy to the Korean Navy in 1959, followed by *Kum Kok*, transferred at Long Beach, California, on 10 Nov. 1959.



KOCHANG 1959, *Korean Navy, Official*

10 Ex-U.S. YMS Type

KUM HWA MSC(O) 519 (ex-U.S.S. *Curlew*, ex-*MSC(O) 8*, ex-*AMS 8*, ex-*YMS 218*)
KIM PO MSC(O) 520 (ex-U.S.S. *Kite*, ex-*MSC(O) 22*, ex-*AMS 22*, ex-*YMS 375*)
KOCHANG MSC(O) 521 (ex-U.S.S. *Mockingbird*, ex-*MSC(O) 27*, ex-*AMS 27*, ex-*YMS 419*)

Notes

Transferred from United States Navy in 1956. See data below.

KANGJIN MSC (O) (ex-*AMS 501*)
KANGNUNG MSC(O) (ex-*AMS 507*)
KYONJU MSC(O) (ex-*AMS 502*)
KANGGYONG MSC(O) (ex-*AMS 510*)
KWANGJU MSC(O) (ex-*AMS 503*)
KIMCHON MSC(O) (ex-*AMS 513*)
KOR YONG MSC(O) (ex-*AMS 515*)

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 8 (*max.*). feet
Guns:	1—3 inch, 50 cal., 2—20 mm. AA.
Machinery:	Diesels. B.H.P.: 1,000=15 kts.
Complement:	50

Notes

Former United States auxiliary motor minesweepers of wooden construction, built in 1941-42. All ex-YMS type. Rigged as minesweepers except *YMS 514* and *YMS 518*, minesweeper type not converted into sweepers. *AMS 516* was mined and sunk in Wonsan Harbour, on 19 Oct. 1950. *AMS 509* was mined on 28 Sep. 1950 off Korea. *AMS 505*, *AMS 506* and *AMS 512* were decommissioned in 1958.

Recent Disposals

The ex-Japanese auxiliary minelayers and light minesweepers *Tosung* and *Tukchon*, and the ex-Japanese gunboats and seaplane salvage tugs *Hukchownan*, *Ching Mukong I* and *Chung Mukong II* were discarded in 1959 it is officially stated.

LANDING SHIPS

Ex-U.S. LST Type

UN BONG LST 807 (ex-U.S.S. *LST 1010*)
WEEBONG LST 812 (ex-U.S.S. *Johnson County LST 849*)
DUKBONG LST 808 (ex-*LST 227*)
BI BONG LST 809 (ex-U.S.S. *LST 218*)
SU YONG LST 813 (ex-U.S.S. *Kane County LST 853*)
KAEBONG (LST 810 (ex-U.S.S. *Berkshire County LST 288*)
BUK HAN LST 815 (ex-U.S.S. *Lynn County LST 900*)
HWA SAN LST 816 (ex-U.S.S. *Pender County LST 1080*)

Displacement:	1,653 tons *standard*, 2,366 tons *beaching* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700 = 11 kts.
Cargo capacity:	2,100 tons
Complement:	211

Notes

Former United States Landing Ships. *Andong* LST 803 (ex-U.S.S. *LST 491*) was wrecked and scrapped on 24 Jan. 1952 *Dak Bong* and *Un Bong* were transferred on 22 Mar. 1955 at S. Diego. *Kaebong* was transferred on 5 Mar. 1956 at Seattle, she mounts 10—40 mm. guns and 8—20 mm. guns. *Buk Han*, *Su Yong* and *Wee Bong* were transferred on 2 Dec. 1958, 22 Dec. 1958 and 13 Jan. 1959, respectively, at Seattle, and *Hwa San* was transferred on 30 Oct. 1958 at Long Beach.

There are also the *Jung Su*, APL 8116, ex-U.S.S. *APL 59*, ex-U.S.S. *LST 53*, non self-propelled barracks ship transferred in 1955, and the landing craft repair ship *Duksoo* (ex-U.S.S. *Minotaur*, *ARL 15*, ex-*LST 645*) loaned from the U.S. Navy in 1955, see next page.

Recent Disposals

Chong Ho LST 801 (ex-U.S.S. *LST 659*), *Ulsan* LST 802 (ex-U.S.S. *LST 608*), *Chochiwan* LST 805 (ex-U.S.S. *LST 595*) and *Samlangjin* LST 806 (ex-U.S.S. *LST 388*) were discarded in 1959.

Ex-U.S. LSM Type

BIYOUP LSM 607 (ex-U.S.S. *LSM 96*)
NEUNG RA LSM 611 (ex-U.S.S. *LSM 84*)
DOK DO LSM 603 (ex-U.S.S. *LSM 419*)
PUNG DO LSM (F) 608 (ex-U.S.S. *LSM 54*)
KA DUK LSM 605 (ex-U.S.S. *LSM 462*)
TAE CHO LSM 601 (ex-U.S.S. *LSM 546*)
KI RIN LSM 610 (ex-U.S.S. *LSM 19*)
WOLMI LSM 609 (ex-U.S.S. *LSM 57*)
KUMOON LSM 606 (ex-U.S.S. *LSM 30*)
YEU DO LSM 602 (ex-U.S.S. *LSM 268*)
ULRYUNG LSM 613 (ex-U.S.S. *LSM 17*)
SIN-MI LSM 612 (ex-U.S.S. *LSM 316*)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ (*max.*) feet
Guns:	1—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesels, direct drive. 2 shafts. B.H.P.: 2,880=12·5 kts
Complement:	60

Notes

On loan from the United States. LSM 19, 30, 54, 57, 84 and 96 were transferred to the Korean Navy at Seattle in 1956. LSM 19, 84 transferred on 3 July 1956, LSM 17 on 18 Oct. 1956, LSM 316 on 18 Nov. 1956. *Pungdo*, *LSM(F) 608* has been converted into a Mine Force Flagship.

Ex-U.S. LSMR Type

SI HUNG LSMR 311 (ex-U.S.S. *St. Joseph River*, *LSMR 527*).

Notes

To be transferred to Republic of Korea Navy at San Diego, California, in 1960.

Landing Ships—*continued*

Ex-U.S. LSSL Type

CHUNG JIN LSIL 105 (ex-U.S.S. *LSIL* 1056) **LSSL 107** (ex-*LSSL* 77) **LSSL 108** (ex-*LSSL* 91) **LSSL 109** (ex-*LSSL* 54) **LSSL 110** (ex-*LSSL* 86)

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	159×23⅜×5⅔ feet
Guns:	4 or 5—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: = 14 kts
Complement:	40 to 78, according to employment

Notes

Chung Jin is a former United States Infantry Landing Ship Large, LSSL, ex-LCI(L). Remainder, former United States Support Landing Ships Large, LSSL, ex-LCS(L), LSSL 107, 108, 109, 110 are employed as gunboats.

OILERS

CHUN-JI (ex-*Birk*) AO 2 **PUJON** (ex-*Hassel*) AO 3

Measurement:	2,257 and 2,256 tons *gross*, respectively
Dimensions:	275 (*pp.*)×44¼×18¼ feet

Notes

Former Norwegian tankers. Both built at Bergen (Norway) at the A/S Berken Mek. Verks in 1951. Taken over by South Korean naval authorities at Rotterdam, Sep. and July 1953, respectively.

KURYONG AO 1, ex-YO 106 (ex-U.S.S. *YO* 118) **PAEK YEON AO 5** (ex-U.S.S. *YO* 59)

Notes

Ex-United States self-propelled fuel oil barges. *YO* 118 was transferred on 3 Dec. 1946 and *YO* 59 was transferred on 14 Oct. 1955.

LANDING CRAFT REPAIR SHIP

DUKSOO (ex-U.S.S. *Minotaur*, *ARL* 15, ex-*LST* 645)

Displacement:	2,366 tons *standard* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*)×50×11½ feet
Guns:	8—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,800=11·5 kts.
Complement:	250

Notes

Former American landing craft repair ship. Built by Chicago Bridge & Iron Co., Seneca, Del. Laid down on 20 June 1944, launched on 20 Sep. 1944 and completed on 30 Sep. 1944.

SUPPLY SHIPS

KIMHAE AKL 902 **WAEKWAN AKL 905**

Notes

Ex-U.S. Army FS craft. *Namwon AKL* 901, *Yoju AKL* 903 and *Chunju AKL* 906 were officially deleted from the list in 1959.

KUN SAN AKL 908 (ex-U.S.S. *Sharps*, *AKL* 10) **MA SAN AKL 909** (ex-U.S.S. *AKL* 35) **MOCK PO AKL 907** (ex-U.S.C.G.C. *Trillium*, *WAK* 170)

Notes

Kun San was transferred from the U.S.N. and commissioned in the Korean Navy at Seattle, Wash. on 3 Apr. 1956, *Ma San* at Seattle on 9 Sep. 1956, and *Mock Po* was transferred at San Francisco in 1956.

AKL 35

Note

Transferred from the United States on 6 Sep. 1956.

TUGS

LT 1 (ex-U.S. Army LT 134) **YDT 1**

Notes

Tugs and salvage vessels.

KOREA (NORTH)

Personnel

Estimated at 7,500 officers and men in Sep. 1960.

Ships

2 ex-Russian coastal submarines; 12 motor torpedo boats; 4 ex-Russian patrol vessels; 8 ex-Russian minesweepers; 70 armed motor junks.

LEBANON

PATROL BOATS

TARABLOUS

Displacement:	105 tons *standard*
Dimensions:	124⅝×18×5¾ feet
Guns:	2—40 mm.
Machinery:	2 Mercedes-Benz diesels. 2 shafts. B.H.P.: 2,700=27 kts.
Radius:	1,500 miles
Complement:	19 (3 officers, 16 men)

Notes

Built by Ch. Navals de l'Estérel. Laid down in June 1958. Launched in June 1959. Completed in 1959.

3 "Biblos" Class

BIBLOS **SIDON** **TIR**

Displacement:	28 tons *standard*
Dimensions:	66×13½×4 feet
Guns:	1—20 mm. AA., 2 M.G.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 530=18·5 kts.

Notes

Built by Ch. Navals de l'Estérel. Launched in 1954-55. A very small naval service has been formed, of which the above four French built ML type craft and a utility landing craft are the nucleus.



BIBLOS 1960, *Capain Aldo Fraccaroli*

LANDING CRAFT

Ex-LCU 1474

Displacement:	180 tons *standard* (360 tons *full load*)
Dimensions:	115×34×6 feet
Guns:	2—20 mm. AA.
Machinery:	3 diesels. 3 shafts. B.H.P.: 675=10 kts.

Notes

Former U.S. utility landing craft built in 1957 and transferred in Nov. 1958.

LIBERIA

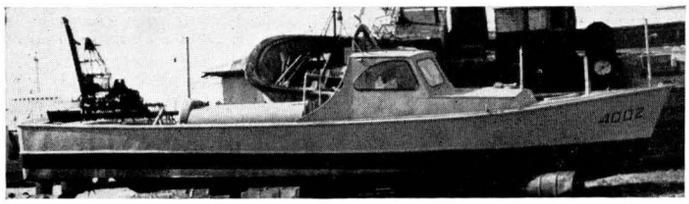
Coast Guard

A very small naval service has been formed with about 200 men.

Mercantile Marine

Lloyd's Register of Shipping: 1,085 vessels of 11,936,250 tons *gross*.

PATROL BOATS (Coastguard Cutters)



ML 4002 1957, *Giorgio Arra*

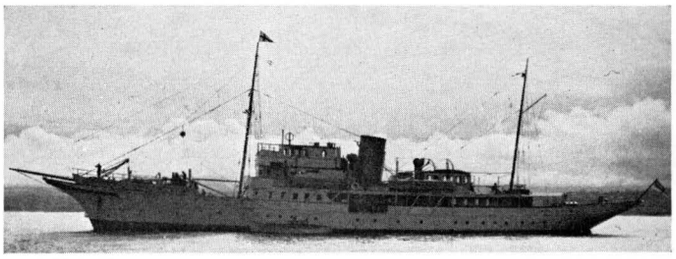
ML 4001 **ML 4002**

Displacement:	11·5 tons
Dimensions:	40½ (*o.a.*)×11⅓×3½ feet
Guns:	2 M.G.
Machinery:	2 General Motors diesels, Model 6-71. 2 shafts. B.H.P.: 380=23 (*max.*) kts. (18 kts. sustained)

Notes

Two newly constructed 40 ft. coastguard cutters built at the United States Coast Guard Yard, Curtis Bay, Maryland, presented by the U.S.A., and transferred during 1957. There is also a landing craft reported to be in service.

PRESIDENTIAL YACHT



VIRGINIA *Added* 1959, *Godfrey H. Walker, Esq.*

VIRGINIA

Measurement:	742 tons (*Thames*), 692·27 tons *gross*, 341·6 tons reg. *net*
Dimensions:	173 (*w.l.*), 209 (*o.a.*)×29⅔×13⅛ feet.

Notes

Motor yacht of 742 tons (yacht measurement) built in 1930 by William Beardmore & Co. Ltd., Dalmuir. Purchased by Liberia for use as the Presidential yacht in 1957.
(Her previous owners were the Trustees of the Estate of the late Viscount Camrose.)

MEXICO

Administration

Secretary of the Navy:
Admiral C.G. Manuel Zermeno Araico.

Under-Secretary of the Navy:
Engineer Rear-Admiral Oliverio F. Orozco Vela.

Chief of Operations:
Vice-Admiral C.G. Rigoberto Otal Briseno.

Commander-in-Chief of the Fleet:
Vice-Admiral C.G. Luis M. Bravo Carrera.

Chief of the Naval Staff:
Rear-Admiral C.G. Antonio J. Aznar Zetina.

Director of Services:
Rear-Admiral C.G. Jose Abelardo Cerdan Muñoz.

Deputy Chief of Naval Staff:
Rear-Admiral Guillermo Hernandez Sagarra.

Personnel

March 1960: Total 6,200 officers and men, including marines.

Mercantile Marine

Lloyd's Register of Shipping:
76 vessels of 181,036 tons *gross*

FRIGATES

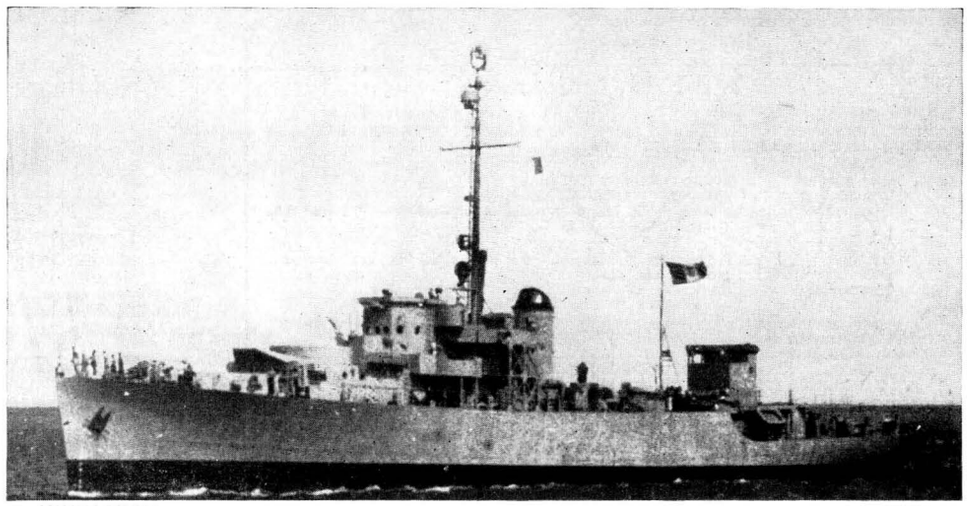
4 Ex-U.S. "Tacoma" Type
Rated as *Fragatas*

CALIFORNIA (ex-U.S.S. *Hutchinson*, *PF* 45)
PAPALOAPAN (ex-U.S.S. *Gladwyne*, *PF* 62)
TEHUANTEPEC (ex-U.S.S. *Bangor*, *PF* 16)
USUMACINTA (ex-U.S.S. *Annapolis PF* 15)

Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37⅔ × 13⅔ feet
Guns:	3—3 inch, 50 cal., 2—40 mm. AA. (single), 2—20 mm. AA. (single)
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts. Sea speed: 18 kts.
Boilers:	2, of 3-drum type
Oil fuel:	290 tons *normal*, 650 tons *max.*
Radius:	9,500 miles at 12 kts.; 7,000 miles at 14 kts.
Complement:	150 to 180

Name	*Builders*
California	Consolidated Steel, Los Angeles, Calif.
Papaloapan	Globe S.B. Co., Superior, Wis.
Tehuantepec	American S.B Co., Lorain, Ohio
Usumacinta	American S.B. Co., Lorain, Ohio

Name	*Loid down*	*Launched*	*Completed*
California	28 July 1943	27 Aug. 1943	3 Feb. 1944
Papaloapan	14 Oct. 1943	7 Jan. 1944	18 Aug. 1944
Tehuantepec	20 May 1943	6 Nov. 1943	22 Aug. 1944
Usumacinta	20 May 1942	16 Oct. 1943	4 July 1944



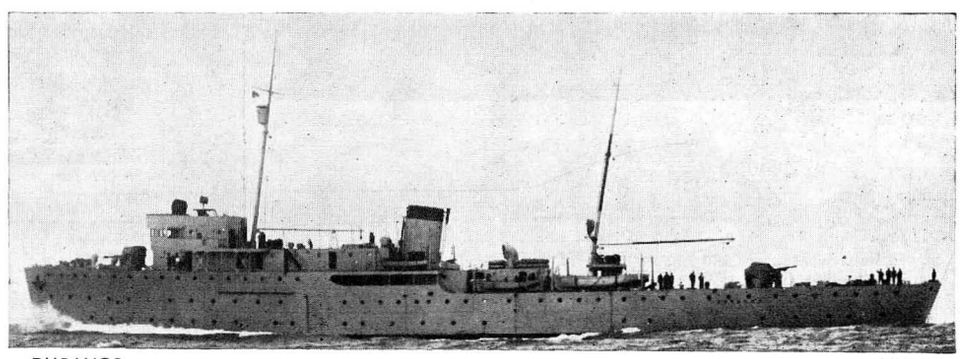
USUMACINTA *Official*

Notes
Former United States patrol frigates, PF, of the "Tacoma" class. Purchased in 1947. All stationed on the Pacific Coast.

1 "Durango" Type
Rated as *Transporte-Canonero*

DURANGO

Pennant No.:	128
Builders	Union Naval de Levante Valencia
Launched:	28 June 1935
Completed:	1936
Displacement:	1,600 tons *standard* (2,000 tons *ull load*)
Dimensions:	282 (*pp.*), 303 (*o.a.*) × 40 × 10 feet
Guns:	2—4 inch, 2—57 mm., 2—25 mm. AA. (twin mounts), 2—13 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 6,500=20 kts. *designed* (19 kts. sea speed)
Boilers:	2 Yarrow
Oil fuel:	400 tons
Radius:	3,000 miles at 15 kts.
Complement:	141



DURANGO *Official*

General Notes
Designed primarily as an armed transport (*transporte-canoñero*) with accommodation for 20 officers, 450 men and 80 horses, this vessel carries a lighter armament than the three *canoñeros* of the "Guanajuato" class (see below) which besides their troop carrying and transport capacity are equivalent to frigates in many ways.

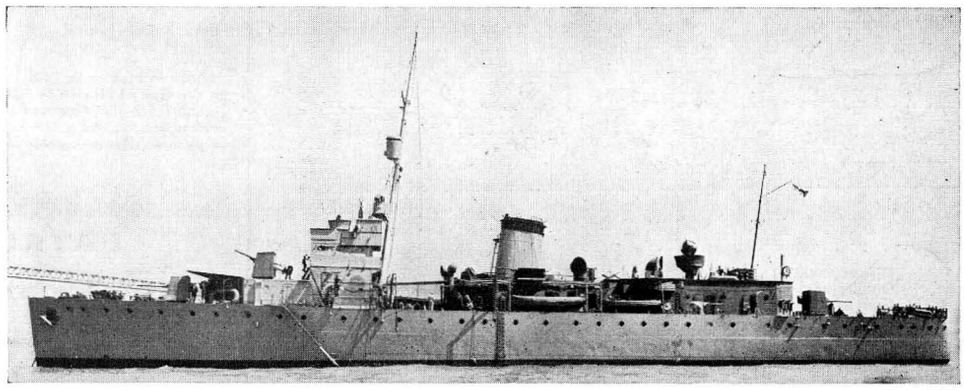
Class Notes
A sister ship of the *Durango*, the *Zacatecas*, was taken over by the Spanish Navy on completion as a frigate or gunboat and renamed *Calvo Sotelo*, but she was removed from the effective list at the end of 1957.

3 "Guanajuato" Class
Rated as *Canoneros*

GUANAJUATO **POTOSI** **QUERETARO**

Displacement:	1,300 tons *standard* (1,950 tons *full load*)
Dimensions:	264 (*o.a.*) × 37⅔ × 10 feet
Guns:	3—4 inch, 2—40 mm. AA. (single), 2—20 mm. AA. (single)
A/S weapons:	2 D.C.T.
Machinery:	*Guanajuato*, *Potosi*: Parsons geared turbines. 2 shafts. S.H.P.: 5,000=20 kts. (diesels in *Queretaro*, see *Notes*)
Boilers:	Yarrow (in *Guanajuato* and *Potosi*, see *Notes*)
Oil fuel:	140 tons
Complement:	About 140 (plus troops, see *Notes*)

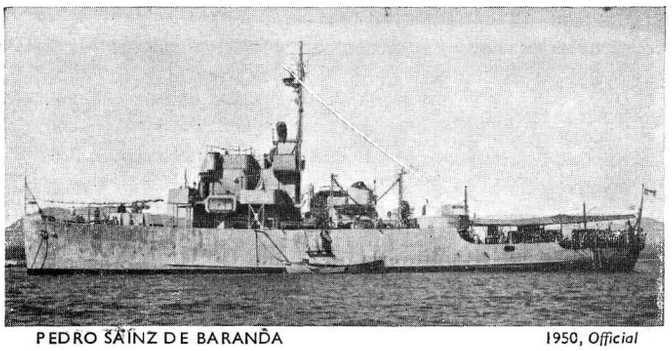
Name	*Builders*	*Launched*
Guanajuato	Sociedad Español de Construccion Naval, Ferrol	29 May 1934
Potosi	S.E. de C.N., Matagorda, Cadiz	24 Aug. 1934
Queretaro	S.E. de C.N., Ferrol	29 June 1934



QUERETARO *Official*

Notes
Classed as *canoñeros*. They can carry 230 troops and 20 horses in addition to the normal ship's complement. In 1958 the steam turbines in *Queretaro*, Pennant No. 62, were replaced with 2 Enterprise DMR-38 model diesel engines, each of 2,500 B.H.P., equal to a cruising speed of 14 kts.

ESCORT VESSELS



PEDRO SÁINZ DE BARANDA 1950, *Official*

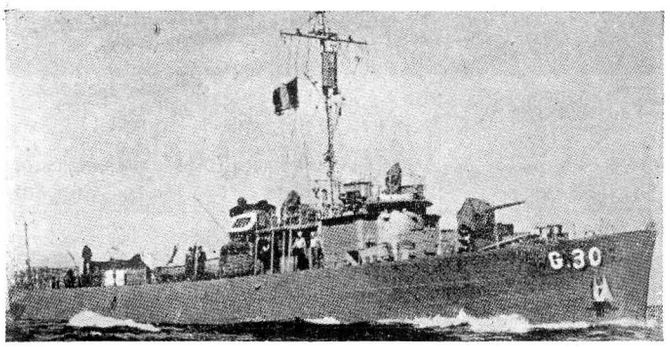
5 Ex-U.S. PCE Type
Rated as *Corbetas*

BLAS GODINEZ (ex-*PCE* 871) **TOMÁS MARÍN** (ex-*PCE* 875)
DAVID PORTER (ex-*PCE* 847) **VIRGILIO URIBE** (ex-*PCE* 868)
PEDRO SAINZ DE BARANDA (ex-*PCE* 844)

Displacement:	600 tons *standard* (903 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9½ feet
Guns:	1—3 inch, 50 cal., 6—40 mm. AA. (3 twin), 4—20 mm. AA. (single)
A/S weapons:	2 D.C.T.
Machinery:	G.M. diesel. 2 shafts. B.H.P.: 1,800=20 kts. designed. (15 kts. sea speed)
Complement:	80

Notes
Former American escort patrol vessels of the PCE type. All completed in 1943-44. Purchased from the United States Navy in 1947.

PATROL VESSELS



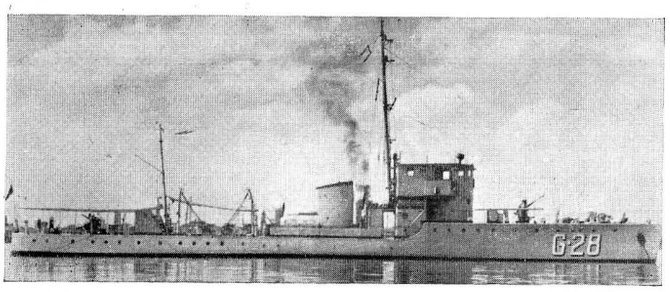
GC 30 1953, *Official*

9 Ex-U.S. PC Type
Rated as *Guardacostas*

GC 30 (ex-*PC* 820) **GC 33** (ex-*PC* 813) **GC 36** (ex-*PC* 1224)
GC 31 (ex-*PC* 608) **GC 34** (ex-*PC* 794) **GC 37** (ex-*PC* 819)
GC 32 (ex-*PC* 614) **GC 35** (ex-*PC* 824) **GC 38** (ex-*PC* 1210)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ (11 *max.*) feet
Guns:	1—3 inch, 1—40 mm. AA., 5—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	2 diesels. 2 shafts. B.H.P.: 2,880=19 kts. (*max.*)
Oil fuel:	60 tons
Radius:	5,000 miles at 10 kts.
Complement:	65

Notes
Former American submarine chasers of the " 173 ft." steel *PC* type. Launched in 1942-44. Completed in U.S. in 1942-45. Purchased as surplus in the United States in 1952. Cruising speed 10 kts. Armament varies. Some not mounted.



G 28 1954, *Official*

1 " G 20 " Class

G 28

Displacement:	130 tons *standard* (184 tons *full load*)
Dimensions:	147½ (*pp.*), 153 (*w.l.*), 156 (*o.a.*) × 16½ × 5¼ (*mean*) feet
Guns:	2—20 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000=12 kts. (see *Notes*)
Complement:	26

Notes
Built in 1934-35. Though of British design, this vessel was built in Spain, by Compania Euskalduna de Construccion, Bilbao, with German engines and bullet-proof hull plating and was originally armed with French guns. It was officially stated in 1960 that the former MAN diesels of 3,000 B.H.P.=24 kts. had been replaced by 2 G.M. 268 model diesels each of 500 B.H.P. G 20, G 21, G 23, G 26 and G 27 were withdrawn from service in 1954, G 22 and G 25 were withdrawn from service in 1956.

PATROL BOATS

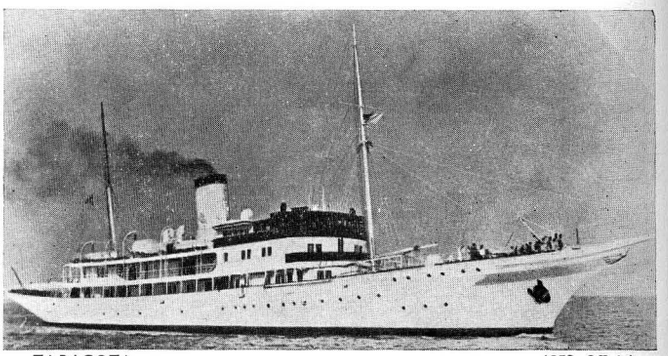
2 New Construction

AZUETA

Displacement:	80 tons *standard*
Dimensions:	85 × 16 × 8 feet
Guns:	2—13·2 mm. AA. (twin)
Machinery:	Superior motors. B.H.P.: 600=10 kts.

Notes
Small patrol craft of all steel construction built at Astilleros de Tampico, Tamps. *Azueta* was launched in Aug. 1959 and entered service in Nov. and the second boat is reported to be nearing completion. (The patrol boat *Halcon* is no longer in the Navy List, having been transferred to fishery protection service in 1959.)

TRAINING SHIP (*Buque Escuela*)



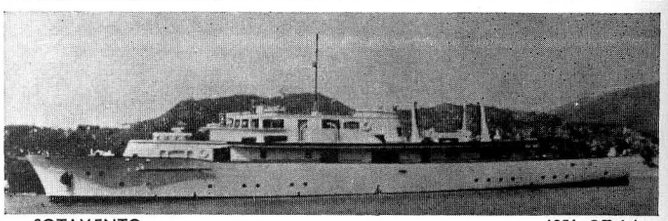
ZARAGOZA 1953, *Official*

ZARAGOZA (ex-*Orizaba*, ex-*Southern Cross*, ex-*Rover*)

Displacement:	1,851 tons
Thames measurement:	2,113 tons
Dimensions:	266½ (*w.l.*), 320½ (*o.a.*) × 40¾ × 14½ feet
Guns:	2—13 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,600=11 kts.
Boilers:	3 cylindrical
Oil fuel:	380 tons
Complement:	150

Notes
Built in Glasgow, Scotland. Launched in 1930. Acquired from Germany in 1939. Ex-Presidential yacht.

PRESIDENTIAL YACHT



SOTAVENTO 1951, *Official*

SOTAVENTO

Displacement:	300 tons *standard* (400 tons *full load*)
Dimensions:	165½ × 27⅔ × 9⅔ feet
Machinery:	Diesel engines. B.H.P.: 1,800=17 kts.

Notes
Built by Higgins, New Orleans. Launched in 1947. Handsome, symmetrical and low-lying, streamlined, truncated funnel, air conditioned, equipped with radar.

TUGS

NEREIDA

Displacement:	85 tons *standard*
Dimensions:	80 (*pp.*) × 16 × 7 feet
Machinery:	Double expansion. I.H.P.: 190=10 kts.
Boilers:	1 Scotch

Notes
Former patrol boat adapted as a fleet tug (*remolcador de la Armada*) and fire-fighting vessel (*buque contraincendios*).

FRANCISCO NICOLAU

Displacement:	85 tons
Dimensions:	68 × 16 × 7 feet
Machinery:	Diesel. B.H.P.: 165=7·5 kts.

Notes
Built in Mexico in 1946. Employed as a lighthouse tender. The tug *Rio Blanco* was lost in the Gulf of Mexico in Feb. 1955.
There are also reported to be three other small steel-hulled tugs varying from 60 to 90 feet in length, and a 119-ft. tank landing craft of the U.S. type.

MOROCCO

PATROL VESSEL (*Escorteur Cotier*)

AGADIR (ex-*Goumier*, ex-U.S.S. *PC* 55)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
A/S weapons:	2 D.C.T. (24 D.C.)
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 3,600=20 kts.
Fuel:	60 tons
Radius:	6,000 miles at 10 kts., 2,300 miles at 18 kts.
Complement:	63

Notes
Former American steel submarine chaser of the PC type. Transferred from the United States to France in 1944. Transferred from the French Navy to the Moroccan Navy on 15 June 1960 and renamed *Agadir*.

ROYAL NETHERLANDS NAVY

Administration

Minister of the Navy: Ir. S. H. Visser.

Secretary of State for the Navy:
Captain P. J. S. de Jong.

Chief of Naval Staff and Commander-in-Chief:
Vice-Admiral L. Brouwer.

Naval Attaché in London:
Captain R. M. Crommelin, R.Neth. Navy.

New Construction Programme

4 frigates of 3,500-3,800 tons standard displacement, powered with steam and gas turbines are projected.

Ships

Colour of warships is greyish blue, *except* submarines, which are dark green in home waters. Ships of the Royal Netherlands Navy are referred to with the prefix "Hr. Ms."

Personnel

1960: 23,000 officers and ratings (including 4,325 officers and men of the Marine Corps).

Navy Estimates

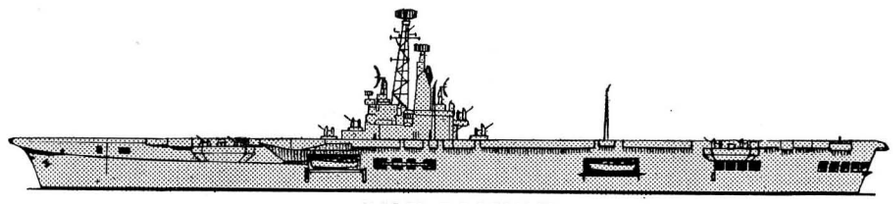
1952: Fl. 347,200,000
1953: Fl. 323,000,000
1954: Fl. 325,000,000
1955: Fl. 321,110,000
1956: Fl. 342,312,000
1957: Fl. 352,770,000
1958: Fl. 363,793,000
1959: Fl. 360,609,000
1960: Fl. 380,779,000

Mercantile Marine

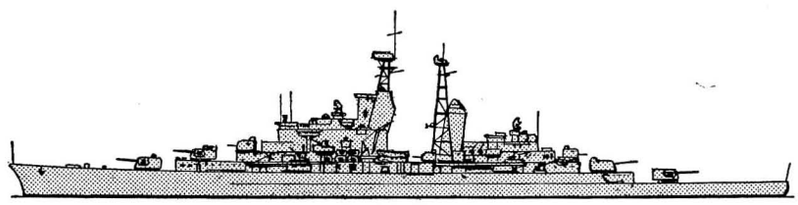
Lloyd's Register of Shipping
1,950 vessels of 4,743,123 tons *gross*

Silhouettes

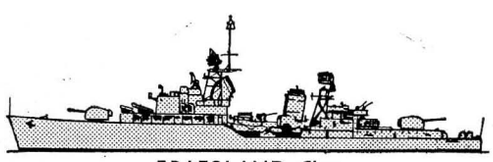
Scale: 150 ft. = 1 inch.



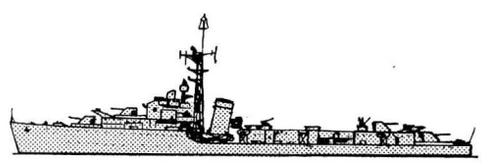
KAREL DOORMAN



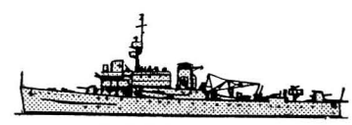
DE RUYTER (DE ZEVEN PROVINCIEN less pronounced curve to bow)



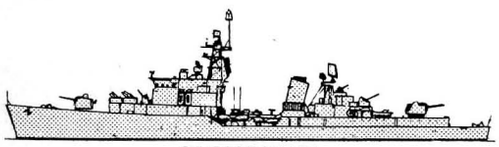
FRIESLAND *Class*



PIET HEIN *Class*



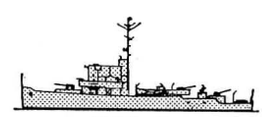
WILLEM VAN DER ZAAN



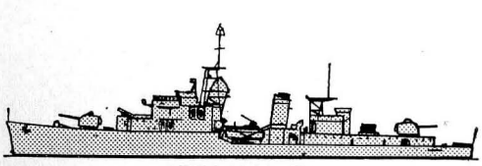
GRONINGEN



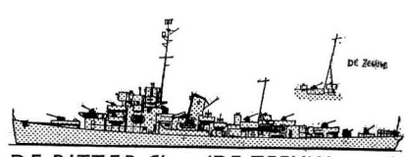
MARNIX



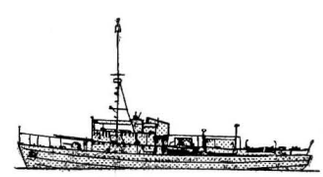
FRET *Class*



HOLLAND *Class*

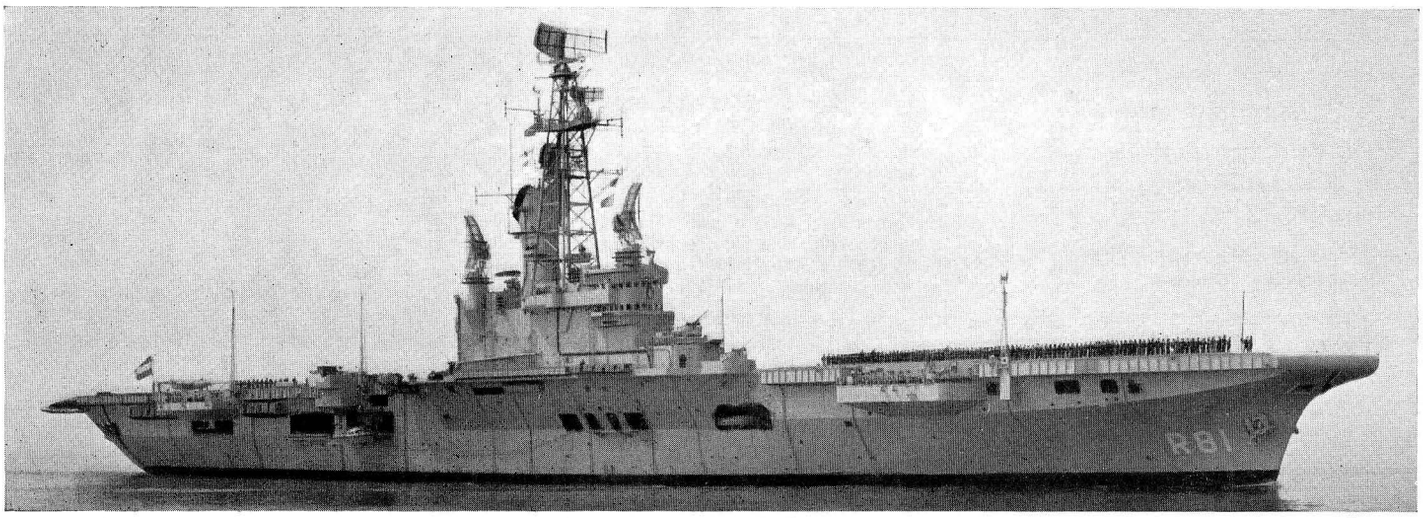


DE BITTER *Class* (DE ZEEUW inset)



SNELLIUS *Class*

AIRCRAFT CARRIER (*Vliegkampschip*)



KAREL DOORMAN 1958, *Wright & Logan*

1 Ex-British Type
(" Colossus " Class)

KAREL DOORMAN (ex-H.M.S. *Venerable*)

Deck Recognition Letter: D

Pennant No.:	R 81
Builders:	Cammell Laird & Co. Ltd., Birkenhead
Laid down:	3 Dec. 1942
Launched:	30 Dec. 1943
Completed:	17 Jan. 1945
Displacement:	15,892 tons *standard* (19,896 tons *full load*) officially revised figures
Dimensions:	Length: 630 (*pp.*), 693¼ (*o.a.*) feet Beam: 80 feet. Width overall: 121½ feet. (as reconstructed) Draught: 21½ (*mean*), 24½ (*max.*) feet
Guns:	12—40 mm. AA. Bofors (latest model), 4—3 pdr. saluting
Aircraft:	(Capacity 35) Official complement: War: 20 Avengers, 12 Sea Hawks, 2 helicopters Peace: 12 Avengers, 8 Sea Hawks, 2 helicopters
Machinery	Parsons geared turbines. 2 shafts. S.H.P.: 42,000=25 kts. (designed), 24·25 kts. sea speed
Boilers:	4, of 3-drum type, 400 lb. working pressure, 700 degrees maximum superheat
Oil fuel:	3,200 tons
Radius:	12,000 miles at 14 kts.
Complement:	1,509

General Notes

Purchased from Great Britain on 1 Apr. 1948. Commissioned in the Royal Netherlands Navy on 28 May 1948. Insulated for tropical service and partly air-conditioned. Underwent modernisation in 1955-58, including a heavier modified angled flight deck and steam catapult, mirror sight landing system and new anti-aircraft battery of ten 40 mm. guns, at the Wilton-Fijenoord Shipyard, at a cost of 25 million guilders instead of the 11 million guilders originally appropriated. Conversion completed in July 1958.

Hangar Notes

Dimensions of hangar are: Length, 445 feet: width, 52 feet; clear depth, 17½ feet.

Engineering Notes

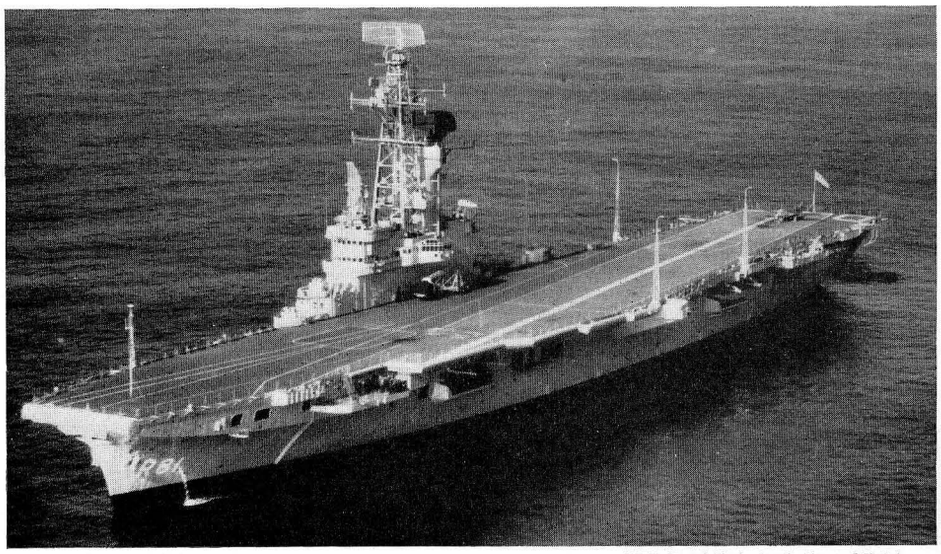
Engines and boilers are arranged *en echelon*, the two propelling-machinery spaces having two boilers and one set of turbines in each space, on the unit system.

Appearance Notes

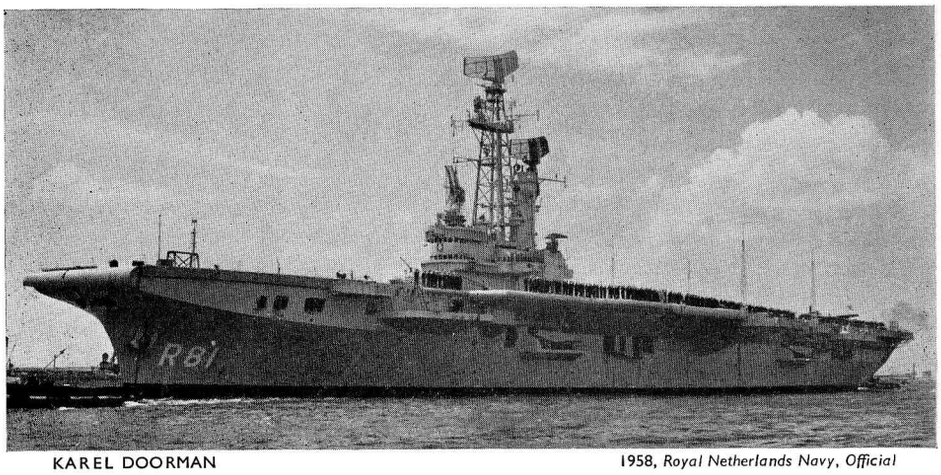
With a new island and bridge and a lattice tripod radar mast, and a tall raked funnel, she differs considerably from her former appearance and from her original sister ships in the British, French, Argentine and Brazilian navies.

Notes to Drawing

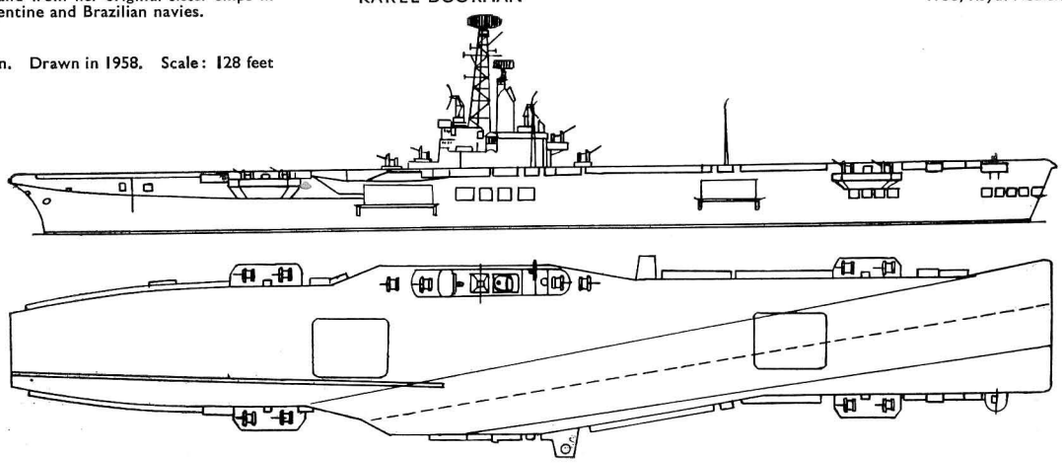
Port elevation and plan. Drawn in 1958. Scale: 128 feet =1 inch.



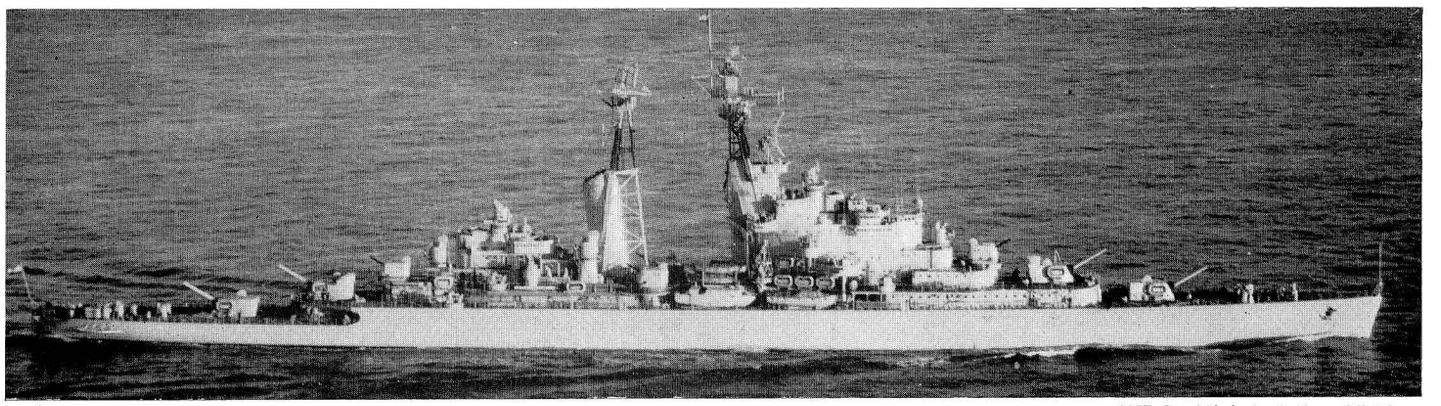
KAREL DOORMAN 1958, *Royal Netherlands Navy, Official*



KAREL DOORMAN 1958, *Royal Netherlands Navy, Official*



CRUISERS (*Kruisers*)



DE ZEVEN PROVINCIEN

1957, *Royal Netherlands Navy, Official*

2 " De Ruyter " Class

DE RUYTER (ex-*De Zeven Provincien*)
DE ZEVEN PROVINCIEN (ex-*De Ruyter*, ex-*Eendracht* ex-*Kijkduin*)

Name:	*De Ruyter*	*De Zeven Provincien*
Pennant No.:	C 801	C 802
Builders:	Wilton-Fijenoord, Schiedam	Rotterdam Drydock Co.
Laid down:	5 Sep. 1939	19 May 1939
Launched:	24 Dec. 1944	22 Aug. 1950
Completed:	18 Nov. 1953	17 Dec. 1953

Displacement: 9,529 tons *standard* (11,850 tons *full load*) officially revised figures
Dimensions: Length: 590½ (*pp.*), 614½ and 609 (*o.a.*) feet respectively. Beam: 56⅔ feet. Draught: 18½ (*mean*), 22 (*max.*) feet
Guns: 8—6 inch (Bofors 1942 model), 8—57 mm. AA. (in pairs), 8—40 mm. AA.
Armour: 3"-2" side; 4", 2¾"-2" turrets.
Machinery: Parsons geared turbines. 2 shafts. S.H.P.: 85,000=32 kts.
Boilers: 4, of 3-drum type
Complement: 957-973

General Notes

Machinery by K. M. de Schelde. Construction resumed in 1946. *De Ruyter* was launched by the Germans as the *De Zeven Provincien*, but as the latter name was given to the former *De Ruyter* when she was launched on 22 Aug. 1950, the war-launched ship took her sister's name in exchange. Tripod mast, originally abaft after funnel, is now before after funnel.

Gunnery Notes

Main armament has 60 degrees elevation. All guns are fully automatic and radar controlled. The 6 inch guns are anti-aircraft with a rate of fire of 15 rounds per minute.

Guided Missile Notes

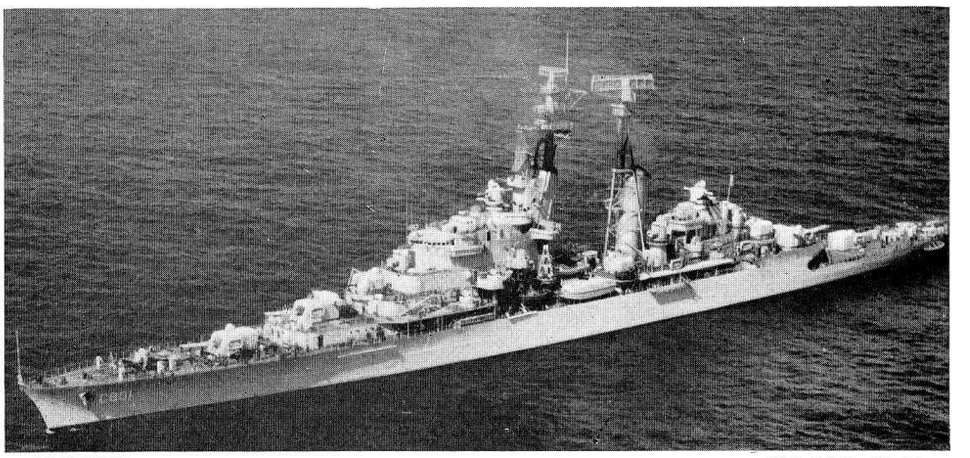
The after turrets of these two cruisers will be replaced by " Terrier " guided missiles, which will be delivered by the United States Navy.

Appearance Notes

The shape of the bows differs in the two ships, which, accounts for the variation in overall lengths.

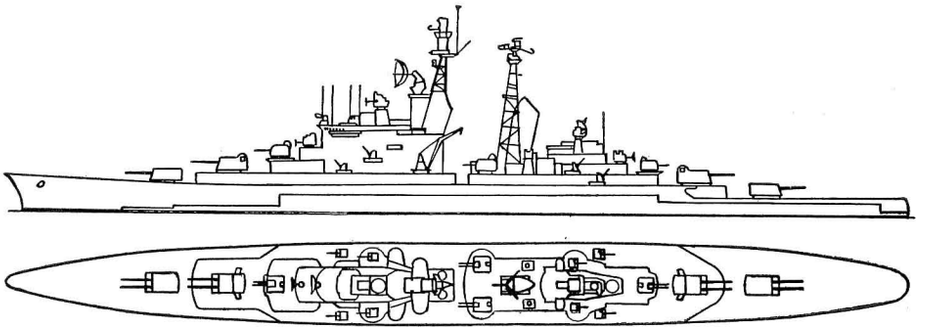
Photograph Notes

Port bow view of *De Zeven Provincien* and aerial stern view of *De Ruyter* in the 1957-58 edition.



DE RUYTER

1957, *R.N.N., Official*



Note to Drawing

Represents *De Ruyter*. Port elevation and plan. *De Zeven Provincien* has straight bow. Scale: 128 feet=1 inch.

ANTI-SUBMARINE DESTROYERS (DDE)

8 "Friesland" Class

AMSTERDAM **GRONINGEN** **ROTTERDAM**
DRENTHE **LIMBURG** **UTRECHT**
FRIESLAND **OVERIJSSEL**

Displacement: 2,497 tons *standard* (3,070 tons *full load*)
Dimensions: 370 (*pp.*), 380½ (*o.a.*) × 38½ × 13 feet
Guns: 4—4·7 inch, 6—40 mm. AA.
Tubes: 8—21 inch (single mounts) see *Torpedo Notes*)
A/S weapons: 2 four-barrelled rocket throwers (depth charge mortars)
Machinery: Geared turbines. 2 shafts. S.H.P.: 60,000=36 kts.
Boilers: 4 Babcock & Wilcox
Complement: 280

General Notes

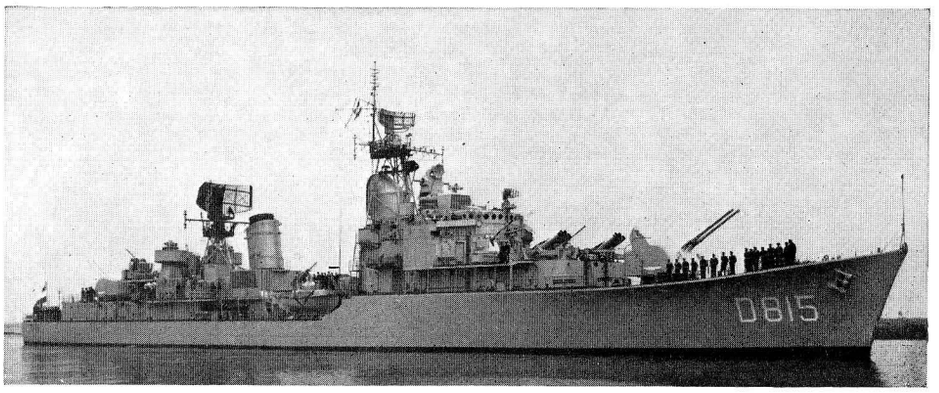
These large fleet escorts have some side armour as well as deck protection, like light cruisers. Unlike most orthodox destroyers they were built without torpedo tubes. They have limbo-type anti-submarine rocket throwers. Named after provinces, Northern and Southern Holland, and two biggest towns. They are type 47B. Builders named on right.

Gunnery Notes

The 4.7 inch guns are fully automatic with a rate of fire of 50 rounds per minute. All the guns are radar controlled.

Torpedo Notes

These ships are being equipped with torpedo tubes, mounted singly, four on each side. *Utrecht* is already fitted with eight tubes and the others are being similarly armed.

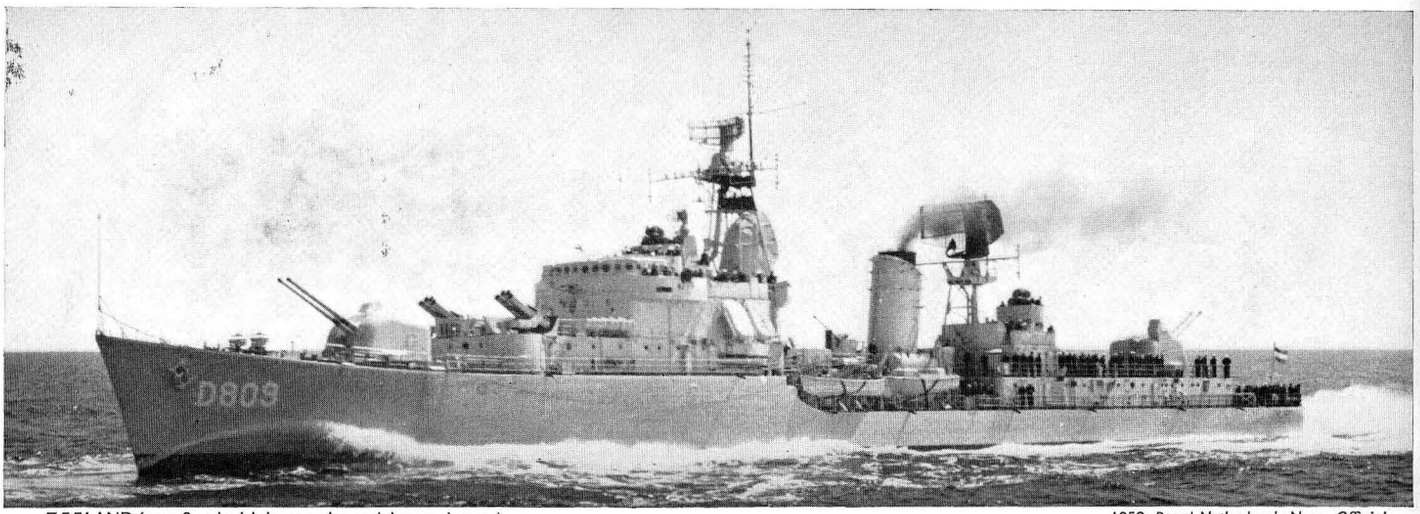


OVERIJSSEL

1958, *Royal Netherlands Navy, Official*

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 812	*Friesland*	Nederlandse Dok en Scheepsbouw Mij., Amsterdam	17 Dec. 1951	21 Feb. 1953	22 Mar. 1956
D 813	*Groningen*	Nederlandse Dok en Scheepsbouw Mij , Amsterdam	21 Feb 1952	9 Jan. 1954	12 Sept 1956
D 814	*Limburg*	Koninklijke Maatschappij De Schelde, Flushing	28 Nov. 1953	5 Sep. 1955	31 Oct. 1956
D 815	*Overijssel*	Dok-en-Werfmaatschappij Wilton-Fijenoord, Schiedam	15 Oct. 1953	8 Aug. 1955	4 Oct. 1957
D 816	*Drenthe*	Nederlandse Dok en Scheepsbouw Mij., Amsterdam	9 Jan. 1954	26 Mar. 1955	1 Aug. 1957
D 817	*Utrecht*	Koninklijke Maatschappij De Schelde, Flushing	15 Feb. 1954	2 June 1956	1 Oct. 1957
D 818	*Rotterdam*	Rotterdamse Droogdok Mij., Rotterdam	7 Jan. 1954	26 Jan. 1956	28 Feb. 1957
D 819	*Amsterdam*	Nederlandse Dok en Scheepsbouw Mij., Amsterdam	26 Mar. 1955	25 Aug. 1956	10 Apr. 1958

Anti-Submarine Destroyers—*continued*



ZEELAND (now fitted with large radar aerial on mainmast) 1958, *Royal Netherlands Navy, Official*

4 " Holland " Class

GELDERLAND
HOLLAND
NOORD BRABANT
ZEELAND

Displacement:	2,215 tons *standard* (2,765 tons *full load*)
Dimensions:	360½ (*pp.*), 371 (*o.a.*) × 37½ × 12½ feet
Guns:	4—4·7 inch, 1—40 mm. Bofors AA.
A/S weapons:	2 four-barrelled rocket throwers (depth charge mortars)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 45,000=32 kts.
Boilers:	4 Babcock & Wilcox
Complement:	280

General Notes
This type 47A are equipped with the turbines originally built before the Second World War for the destroyers of the " Gerard Callenburgh " class then under construction. In May 1940 these turbines fell into German hands, but in 1945 they were recovered, as the destroyers which the Germans ordered to be built by Netherlands shipbuilding yards and which would have been fitted with these turbines were never built.

Gunnery Notes
The 4·7 inch guns are fully automatic and radar controlled.

Photograph Notes
Port bow view of *Noord Brabant* and starboard quarter view of *Holland* in 1957-58 edition.

Pennant No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 808	*Holland*	Rotterdamse Droogdok Mij., Rotterdam	21 Apr. 1950	11 Apr. 1953	31 Dec. 1954
D 809	*Zeeland*	Koninkijke Maatschappij De Schelde, Flushing	12 Jan. 1951	27 June 1953	1 Mar. 1955
D 810	*Noord Brabant*	Koninkijke Maatschappj De Schelde, Flushing	1 Mar. 1951	28 Nov. 1953	1 June 1955
D 811	*Gelderland*	Dak-en-Werfmaatschappij Wilton-Fijenoord, Scheidam	10 Mar. 1951	19 Sep. 1953	17 Aug. 1955

FAST FRIGATES (Converted from Destroyers)

New Construction
Four new frigates will be built in the near future, one of which will be named *Van Speijk* (see Addenda).

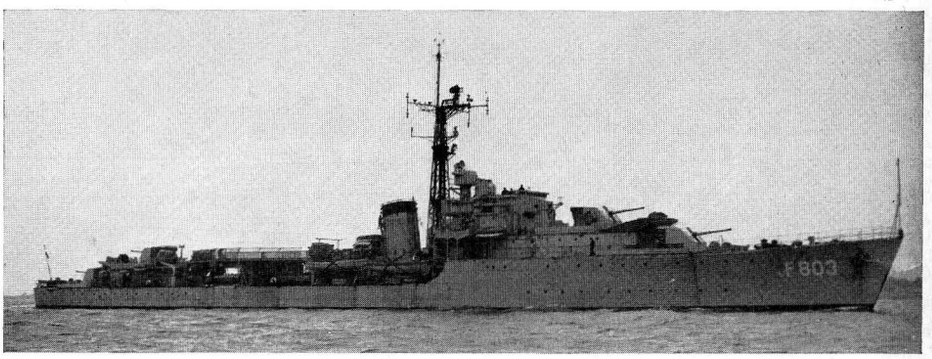
3 " Piet Hein " Class

EVERTSEN (ex-*Scourge*) **PIET HEIN** (ex-*Serapis*)
KORTENAER (ex-*Scorpion*, ex-*Sentinel*)

Displacement:	1,730 tons *standard* (2,525 tons *full load*)
Dimensions:	366½ × 35⅔ × 10 feet
Guns:	4—4·7 inch, 6—40 mm. AA. (all three rehabilitated in 1956-57)
Tubes:	8—21 inch (quadrupled)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=36·75 kts. (designed) 31·25 kts. sea speed
Boilers:	2, of 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	236-237

Pennant Nos.	*Name*	*Builders*
F 803	*Evertsen*	Cammell Laird & Co. Ltd., Birkenhead
F 804	*Kortenaer*	
F 812	*Piet Hein*	Scotts S.B. & Eng. Co. Ltd., Greenock

Name	*Laid down*	*Launched*	*Completed*
Evertsen	26 June 1941	8 Dec. 1942	14 July 1943
Kortenaer	19 June 1941	26 Aug. 1942	11 May 1943
Piet Hein	14 Aug. 1941	25 Mar. 1943	23 Dec. 1943



EVERTSEN (after conversion) 1958, *Royal Netherlands Navy, Official*

General Notes
These three ships were originally " S " class destroyers purchased from Great Britain 1945-46. *Evertsen* commissioned in the Royal Netherlands Navy on 1 Feb. 1946, *Kortenaer* 1 Oct. 1945, *Piet Hein* 5 Oct. 1945. Names are those previously borne by destroyers lost in action in the East Indies, 1942.

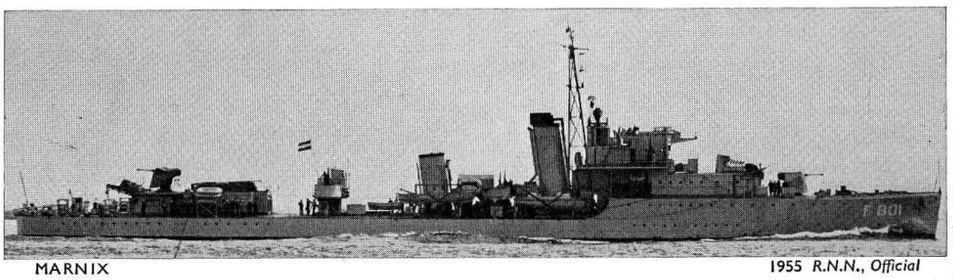
Conversion Notes
All three of these fast frigates were converted from destroyers at Rijkswerf Willemsoord in 1957-58, with a helicopter platform aft between the funnel and " X " gun position, the former diminutive mainmast being removed. The armament was unchanged. *Evertsen* commissioned after conversion on 15 Oct. 1957, *Piet Hein* on 1 July 1958, *Kortenaer* on 15 Oct. 1959.

Recent Disposals
The destroyers *Banckert* and *Van Galen* were sold for scrap on 8 Feb. 1957, *Banckert* to J. de Smedt at Antwerp and *Van Galen* to Frank Rijsdijk's Industriele Handelsondernemingen at Hendrik-Ido-Ambacht.

1 Ex-British Destroyer

MARNIX (ex-H.M.S. *Garland*)

Pennant No.:	F 801
Builders:	Fairfield S.B. & Engineering Co. Ltd., Govan, Glasgow
Laid down:	22 Aug. 1934
Launched:	24 Oct. 1935
Completed:	3 Mar. 1936
Displacement:	1,335 tons *standard* (1,927 tons *full load*) see notes
Dimensions:	312 (*pp.*), 323 (*o.a.*) × 33 × 8½ (*mean*) feet
Guns:	2—4·1 inch, 6—20 mm. AA.
A/S weapons:	Rocket launcher in " B " position. 4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 34,000=34 kts. (30 kts. sea speed)
Boilers:	3, of 3-drum type
Oil fuel:	455 tons
Complement:	193



MARNIX 1955 *R.N.N., Official*

Notes
Former British destroyer of the " G " flotilla. Served with distinction under the Polish flag for the greater part of the Second World War. Purchased by Netherlands in Dec. 1947. Underwent complete refit at the Nederlandse Dok en Scheepsbouw Mij. at Amsterdam in 1948-49. Commissioned on 16 Jan. 1950 as seagoing anti-submarine training destroyer and training ship for engine-room personnel. Has box-like clinker screen on fore funnel. Reclassified as a frigate in 1953. According to officially revised figures she now has a light displacement of 916 tons and a normal displacement of 1,455 tons.

FRIGATES (*Fregatten*)

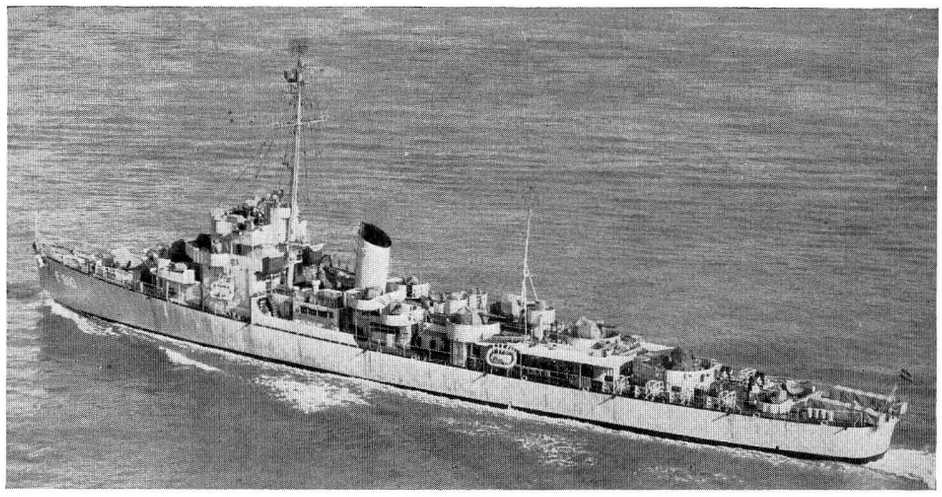
6 " De Bitter " Class
(Ex-U.S. Destroyer Escort Type)

DE BITTER (ex-U.S.S. *Rinehart*, *DE* 196)
DE ZEEUW (ex-U.S.S. *Eisner*, *DE* 192)
DUBOIS (ex-U.S.S. *O'Neill*, *DE* 188)
VAN AMSTEL (ex-U.S.S. *Burrows*, *DE* 195)
VAN EWIJCK (ex-U.S.S. *Gustafson*, *DE* 182)
VAN ZIJLL (ex-U.S.S. *Stern*, *DE* 187)

Displacement:	1,300 tons *standard*, 1510 tons *normal* (1,900 tons *full load*), officially revised figures
Dimensions:	306 (*o.a.*) × 36⅜ × 14 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p., 6—40 mm. AA., 18—20 mm. AA.
A/S weapons:	8 D.C.T.
Machinery:	General Motors diesels. Electric drive. B.H.P.: 6,000=19 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	210

Pennant No.	*Name*	*Builders*
F 807	*De Bitter*	Federal S.B. & D.D. Co., Port Newark
F 810	*De Zeeuw*	
F 809	*Dubois*	
F 806	*Van Amstel*	Dravo Corporation, Wilmington, Del.
F 808	*Van Ewijck*	Federal S.B. & D.D. Co., Port Newark
F 811	*Van Zijll*	

Name	*Launched*	*Completed*
De Bitter	24 Oct. 1943	19 Dec. 1943
De Zeeuw	12 Dec. 1943	1 Jan. 1944
Dubois	14 Nov. 1943	6 Dec. 1943
Van Amstel	8 Jan. 1944	12 Feb. 1944
Van Ewijck	3 Oct. 1943	1 Nov. 1943
Van Zijll	31 Oct. 1943	1 Dec. 1943



DE ZEEUW — *Added 1958, Skyfotos*

Notes

Ex-United States destroyer escorts, DE, of the " Bostwick " class acquired under the Mutual Defense Assistance Program. *Van Amstel* and *De Bitter* were commissioned in the Royal Netherlands Navy on 1 June 1950 and delivered at Den Helder in Aug. 1950. *Dubois* and *Van Ewijck* were delivered on 23 Oct. 1950, and *De Zeeuw* and *Van Zijll* on 3 May 1951, at Boston. Torpedo tubes were removed.

Recent Disposals of Frigates

Johan Maurits van Nassau was sold for scrap in Jan. 1960 for Fl. 257,650 and was broken up at Diemen, near Amsterdam; *Van Speijk* was stricken from the active list in 1960; *Batjan*, *Boeroe* and *Ceram* in 1958; *Jan van Brakel* in Aug. 1957; *Soemba* in Jan. 1956; *Van Kinsbergen* on 1 Dec. 1955; *Flores* on 1 May 1955.

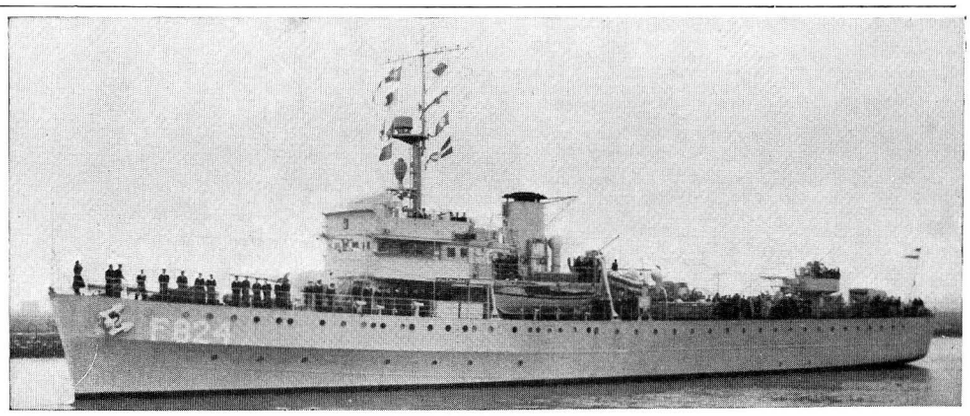
1 Ex-Minelayer Type

WILLEM VAN DER ZAAN

Pennant No.:	F 824
Builders:	Netherlands Dry Dock Co.
Laid down:	18 Jan. 1938
Launched:	15 Dec. 1938
Completed:	21 Aug. 1939
Displacement:	1,143 tons *standard* (1,450 tons *full load*) officially revised figures
Dimensions:	229¾ (*pp.*), 247 (*o.a.*) × 36¾ × 11 feet
Guns:	2—4·5 inch, 50 cal., 2—40 mm. AA., 4—20 mm. AA., 2 M.G.
Machinery:	2 sets triple expansion. H.P.: 2,300=15·5 kts.
Boilers:	2 Yarrow
Oil fuel:	225 tons
Radius:	5,900 miles at 9 kts.
Complement:	160

Notes

Formerly a minelayer with a capacity of 92 mines. She was converted with a new stern and re-rated as a frigate early in 1953.



WILLEM VAN DER ZAAN — 1955, *R.N.N., Official*

CORVETTES

1 Italian Corvette Type

LYNX (ex-*PCE* 1626)

Pennant No.:	F 823
Builders:	Breda Marghera Yard, Mestre, Venice, Italy
Laid down:	25 July 1953
Launched:	31 July 1954
Completed:	2 Oct. 1956
Displacement:	661 tons *light*, 760 tons *normal* (1,000 tons *full load*), officially revised figures
Dimensions:	244 (*pp.*), 249½ (*o.a.*) × 31 × 9 feet
Guns:	2—3 inch AA., 2—40 mm. Bofors AA. (twin)
A/S weapons:	2 Hedgehogs forward, 4 D.C.T.
Machinery:	Fiat diesels. 2 shafts. B.H.P.: 4,500=21 kts. Sea speed: 20 kts.
Oil fuel:	100 tons
Radius:	2,400 miles at 18 kts.
Complement:	99

Notes

Built in an Italian yard to the offshore construction order of the United States for the Mutual Defense Assistance Programs general account. Similar to the " Albatros " class in the Italian Navy and the " Triton " class in the Royal Danish Navy.



LYNX — 1957, *R.N.N. Official*

6 U.S. PCE Type Escort Patrol Vessels

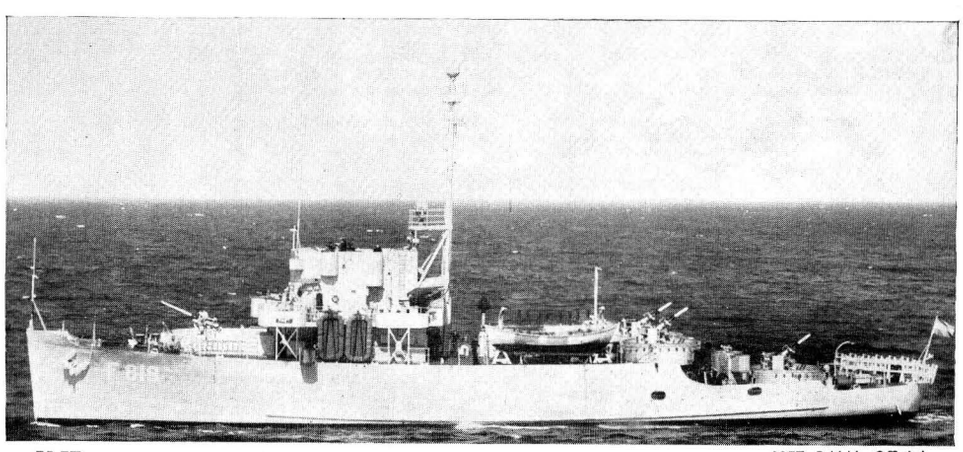
FRET (ex-*PCE* 1604)
HERMELIJN (ex-*PCE* 1605)
JAGUAR (ex-*PCE* 1609)
PANTER (ex-*PCE* 1608)
VOS (ex-*PCE* 1606)
WOLF (ex-*PCE* 1607)

Displacement:	808 tons *standard* (975 tons *full load*) officially revised figures
Dimensions:	180 (*pp.*), 184½ (*o.a.*) × 33 × 9½ (*mean*), 14½ (*max.*) feet
Guns:	1—3 inch, d.p., 6—40 mm. AA., 8—20 mm. AA.
A/S weapons:	40 D.C.T., 2 D.C. racks
Machinery:	Diesels. 2 shafts. B.H.P.: 1,600=15 kts.
Complement:	96

Notes

All constructed in the United States under the terms of the Mutual Defense Assistance Programs. *Jaguar*, *Panter* and *Wolf* were built by Avondale Marine Ways, Inc., and the remaining three by Gen. Ship Eng. Works, Boston.

No.	*Name*	*Laid down*	*Launched*	*Completed*
F 818	*Fret*	18 Dec. 1952	30 July 1953	4 May 1954
F 819	*Hermeiljn*	2 Mar. 1953	6 Mar. 1954	5 Aug. 1954
F 822	*Jaguar*	10 Dec. 1952	20 Mar. 1954	11 June 1954
F 821	*Panter*	1 Dec. 1952	30 Jan. 1954	11 June 1954
F 820	*Vos*	3 Aug. 1953	1 May 1954	2 Dec. 1954
F 817	*Wolf*	15 Nov. 1952	2 Jan. 1954	26 Mar. 1954



FRET — 1957, *R.N.N., Official*

SUBMARINES (*Onderzeeboten*)

New Construction

POTVIS **TONIJN**

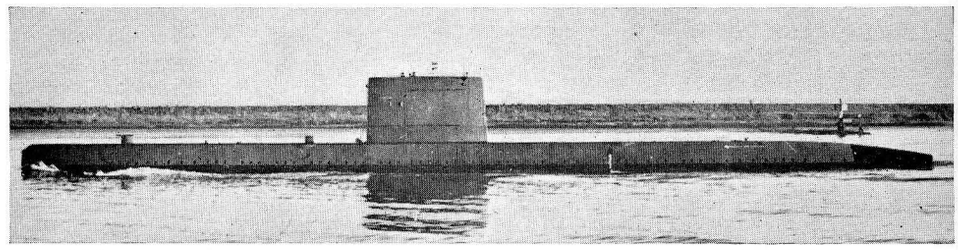
Notes
Two conventional submarines will be built in the near future.

2 Triple Hulled Oceangoing Type

DOLFIJN **ZEEHOND**

Displacement:	1,150 tons *standard*; 1,475 tons *surface*; 1,795 tons *submerged* (Officially revised figures, 1960)
Dimensions:	2600 × 25¾ × 14 feet
Tubes:	8—21 inch
Machinery:	2 MAN. 12-cyl. diesels. 2 shafts. B.H.P.: 3,100=17 kts. *surface* Electric motors. H.P.: 4,200=17 kts. *submerged*
Complement:	63

General Notes
These novel submarines are of a new triple-hulled design with electric propulsion on the surface and submerged. Maximum depth: 980 feet. Four new submarines were voted for in 1949. *Dolfijn*, *O* 32, was launched on 20 May 1959, started trials on 18 Jan. 1960, and was commissioned in July 1960. *Zeehond*, *O* 33, was laid down on 30 Dec. 1954, and launched on 20 Feb. 1960, both at the yard of Rotterdam Drydock Company, but the design of the two ordered from Wilton-Fijenoord, Schiedam, *Potvis*, *O* 34, and *Tonijn*, *O* 35, will be radically changed and they will be completed as atomic submarines. Meanwhile, the contracts for these two boats have been cancelled and their construction suspended pending a study of the future of nuclear propulsion.



DOLFIJN — 1960, *Royal Netherlands Navy, Official*

Construction Notes
The hull consists of three cylinders arranged in a pyramid shape. The uppermost cylinder accommodates the crew, as well as navigational equipment and armaments. The other two cylinders are designed for propulsion, containing diesel engines and electric motors. The pyramid shape of three cylinders is covered with a steel hull, designed to make the submarine able to resist higher external pressures. See Frontispiece of the 1959-1960 edition for scale models—cutaway longtitudinal section showing double decker roominess, and cross section showing triple hull permitting greater diving depth.

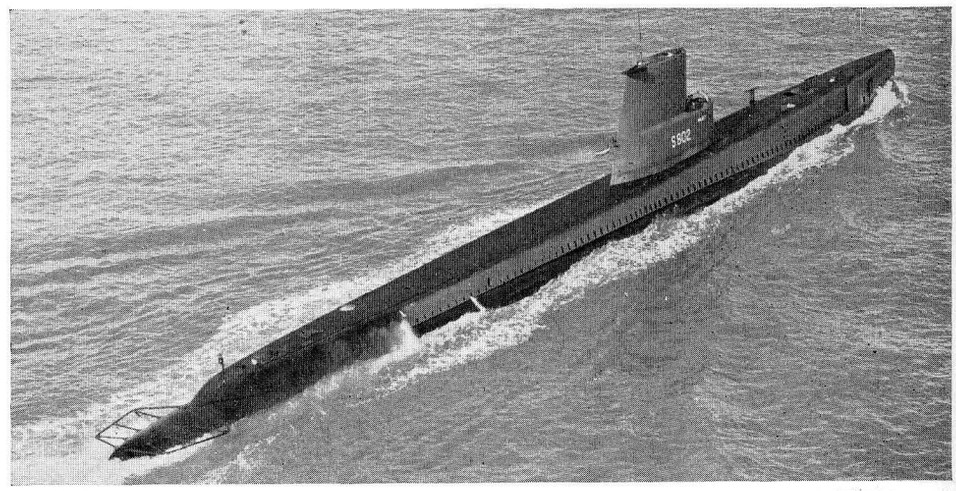
2 "Walrus" Class (Ex-American "Balao" Type)

WALRUS (ex-*Icefish*) **ZEELEEUW** (ex-*Hawkbill*)

Displacement:	1,420 tons *standard*, 1,525 tons *surface* (2,425 tons *submerged*)
Dimensions:	309 (*o.a.*) × 27 × 17 feet
Tubes:	10—21 inch (6 bow, 4 stern). 24 torpedoes
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500=20 kts. (*surface*), Electric motors H.P.: 2,700=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	79

Name:	*Walrus*	*Zeeleeuw*
Pennant No.:	S 802	S 803
Builders:	Manitowoc S.B. Co., Wisconsin	Manitowoc S.B. Co., Wisconsin
Laid down:	1943	1943
Launched:	20 Feb. 1944	9 Jan. 1944
Completed:	10 June 1944	17 May 1944
Converted:	1952	1952
Transferred:	21 Feb. 1953	21 Apr. 1953

Notes
Ex-American "Balao" class submarines, acquired on loan from the United States Navy for period of five years, subsequently extended to ten years. They were transferred to the Royal Netherlands Navy on 21 Feb. and 21 April 1953, respectively, after having been converted and streamlined with enclosed conning tower "fin."



WALRUS — *Added* 1957, *Skyfotos*

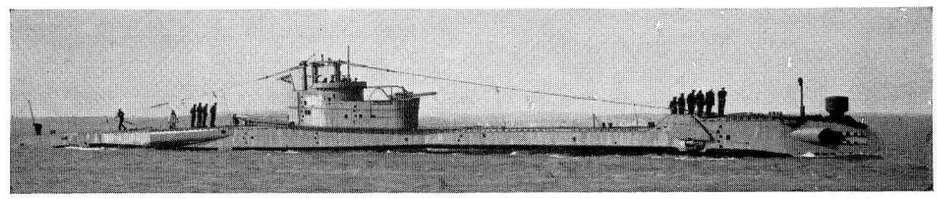
2 "Tijgerhaai" Class (Ex-British "T" Class)

TIJGERHAAI (ex-*Tarn*) **ZWAARDVIS** (ex-*Talent*)

Displacement:	1,210 tons *standard*, 1,444 tons *surface*, 1,605 tons *submerged* (officially revised figures)
Dimensions:	273½ × 26½ × 14¾ feet
Guns:	1—4 inch, 2—20 mm. AA.
Tubes:	11—21 inch (8 bow, 3 stern 3 stern and 2 bow tubes are external)
Machinery:	2 Vickers diesels. B.H.P.: 2,500=15 kts. *surface*; Electric motors. H.P.: 1,800=8 kts. *submerged*
Oil fuel:	210 tons
Radius:	9,000 miles at 10 kts.
Complement:	65

Notes
These submarines were purchased from Great Britain. They are fitted with snort. Both boats have a streamlined asdic dome between the bow torpedo tubes.

Recent Disposals
O. 27 was stricken from the active list on Dec. 1959 and is being sold. Of her sister ships, O 24 was removed from the effective list in 1956, and O 21 was sold for scrap to Alkmaar on 24 Jan. 1958 for Fl 141,000.



TIJGERHAAI — *Added* 1958, *Wright & Logan*

Name:	*Tijgerhaai*	*Zwaardvis*
Pennant No.:	S 812	S 814
Builders:	Vickers-Armstrongs (Barrow)	Vickers-Armstrongs (Barrow)
Laid down:	12 June 1943	13 Oct. 1942
Launched:	29 Nov. 1944	17 July 1943
Completed:	6 Apr. 1945	4 Dec. 1944

OCEAN MINESWEEPERS

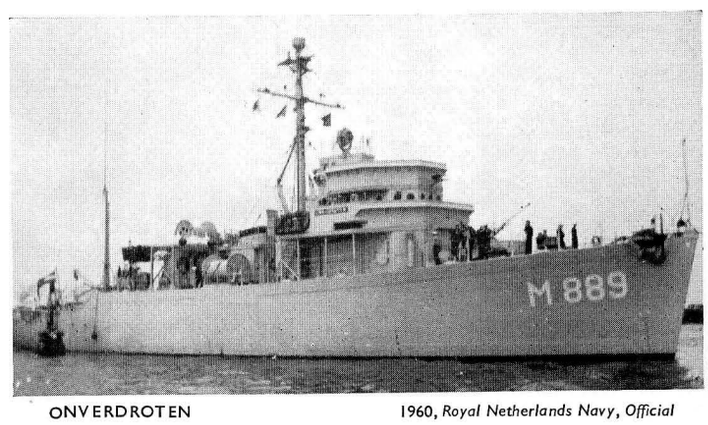
6 U.S. AM Wooden Type

ONBEVREESD (ex-*AM* 481) **ONVERSAAGD** (ex-*AM* 480)
ONVERDROTEN (ex-*AM* 485) **ONVERSCHROKKEN** (ex-*AM* 483)
ONVERMOEID (ex-*AM* 484) **ONVERVAARD** (ex-*AM* 482)

Displacement:	735 tons *standard* (790 tons *full load*) officially revised figures
Dimensions:	165 (*pp.*), 172 (*o.a.*) × 36 × 10 (*max.*) feet
Guns:	1—40 mm. Bofors AA.
A/S weapons:	2 D.C.
Machinery:	Diesel. B.H.P.: 1,600=15·5 kts.
Oil fuel:	46 tons
Radius:	2,400 miles at 12 kts.
Complement:	67

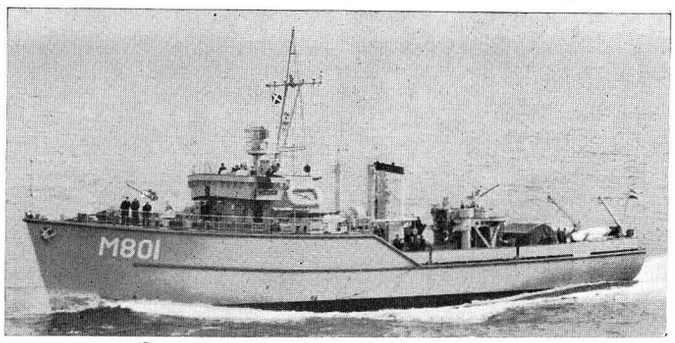
Notes
Built in the United States for the Netherlands under the terms of the Mutual Defense Assistance Program. All completed in 1954-55. *Onversaagd*, *Onbevreesd* and *Onvervaard* were built by Astoria Marine Construction Co. and the remaining three by Peterson Builders, Wisconsin.

Pennant No.	*Name*	*Laid down*	*Completed*
M 884	*Onversaagd*	1952	27 May 1954
M 885	*Onbevreesd*	1952	21 Sep. 1954
M 886	*Onverschrokken*	1952	22 July 1954
M 887	*Onvermoeid*	1952	23 Sep. 1954
M 888	*Onvervaard*	1952	31 Mar. 1955
M 889	*Onverdroten*	1952	22 Nov. 1954



ONVERDROTEN — 1960, *Royal Netherlands Navy, Official*

COASTAL MINESWEEPERS (*Mijnenvegers*)



DOKKUM 1956, *R.N.N., Official*

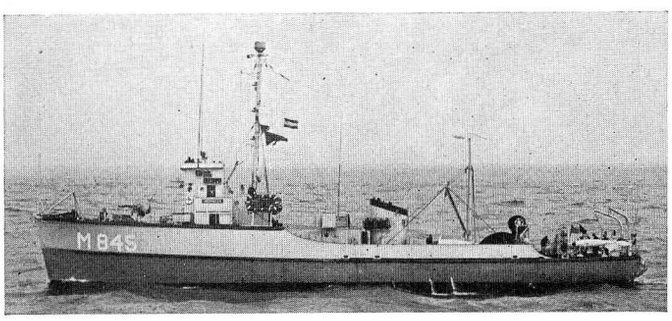
32 " Dokkum " Class
Netherlands Wooden Type

M 811 AALSMEER	**M 826 GRIJPSKERK**	**M 844 RHENEN**
M 810 ABCOUDE	**M 802 HOGEZAND**	**M 806 ROERMOND**
M 808 AXEL	**M 827 HOOGEVEEN**	**M 830 SITTARD**
M 801 DOKKUM	**M 822 LEERSUM**	**M 828 STAPHORST**
M 812 DRACHTEN	**M 843 LISSE**	**M 824 SNEEK**
M 818 DRUNEN	**M 816 LOCHEM**	**M 804 STEENWIJK**
M 829 ELST	**M 814 MEPPEL**	**M 842 VEERE**
M 841 GEMERT	**M 809 NAALDWIJK**	**M 817 VENLO**
M 805 GIETEN	**M 823 NAARDEN**	**M 807 WAALWIJK**
M 815 GIETHOORN	**M 813 OMMEN**	**M 803 WILDERVANK**
M 819 GOES		**M 820 WOERDEN**

Displacement: 373 tons *standard* (417 tons *full load*) officially revised figures
Dimensions: 149¾ (*o.a.*) × 28 × 6½ feet
Guns: 2—40 mm.
Machinery: 2 Diesel engines, Fyenoord MAN of Werkspoor type (Netherlands). B.H.P.: 2,500 = 14 to 16 kts.
Complement: 38

Notes

Of these 32 coastal minesweepers built in the Netherlands, 18 were provided under offshore procurement to the order of the U.S. (on American account under the terms of the Mutual Defense Assistance Program) and conform to the British design of coastal minesweepers. The Netherlands built the remaining 14 minesweepers on her own account. All launched in 1954-56 and completed in 1955-57.



BEEMSTER 1955, *R.N.N., Official*

14 " Beemster " Class
U.S. AMS Wooden Type

M 845 BEEMSTER (ex-*AMS* 105)	**M 852 BREUKELEN** (ex-*AMS* 100)
M 846 BOLSWARD (ex-*AMS* 109)	**M 853 BLARICUM** (ex-*AMS* 112)
M 847 BEDUM (ex-*Beerta*, ex-*AMS* 106)	**M 854 BRIELLE** (ex-*AMS* 167)
M 848 BEILEN (ex-*AMS* 110)	**M 855 BRESKENS** (ex-*AMS* 148)
M 849 BORCULO (ex-*AMS* 107)	**M 856 BRUINISSE** (ex-*AMS* 168)
M 950 BORNE (ex-*AMS* 108)	**M 857 BOXTEL** (ex-*AMS* 149)
M 851 BRUMMEN (ex-*AMS* 111)	**M 858 BROUWERSHAVEN** (ex-*AMS* 150)

Displacement: 330 tons *standard*, 364 tons *normal* (384 tons *full load*) officially revised figures
Dimensions: 138 (*pp.*), 144⅜ (*o.a.*) × 27⅞ × 7½ feet
Guns: 2—20 mm. AA.
Machinery: 2 diesels. B.H.P.: 880 = 13·6 kts.
Complement: 37

Notes

Built in U.S.A. Non-magnetic MSC (ex-*AMS*) type. All transferred from the U.S.N. to the R.N.N. and completed and commissioned at New Orleans, Seattle and San Francisco in 1953-54.

DIVING TENDERS

Ex-Coastal Minesweepers
5 U.S. BYMS Type

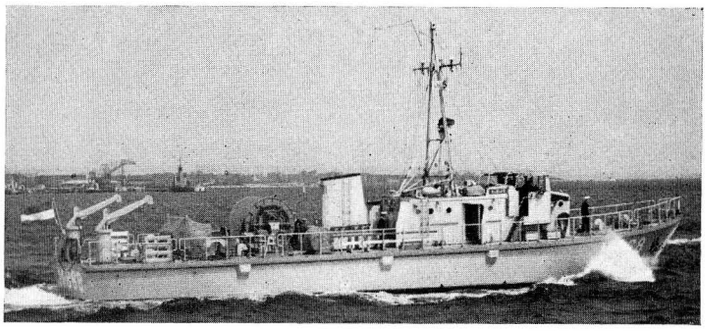
BORNDIEP (ex-*BYMS* 2210)
DEURLOO (ex-*BYMS* 2254)
MARSDIEP (ex-*BYMS* 2038)
VLIESTROOM (ex-*BYMS* 2155)
ZUIDERDIEP (ex-*BYMS* 2048)

Displacement: 250 tons *standard* (295 tons *full load*)
Dimensions: 136 × 24½ × 6 feet
Guns: 1—3 inch, 2—20 mm. AA.
Machinery: Diesel. B.H.P.: 1,000 = 13 kts.
Oil fuel: 16 tons
Radius: 2,000 miles at 8 kts.
Complement: 26

Notes

Former coastal minesweepers re-rated as diving tenders in 1958. Of wooden construction. All launched in 1942-43. Pennant Nos. A 905 (ex-M 831), A 921 (ex-M 832), A 906 (ex-M 834), A 922 (ex-M 837) and A 904 (ex-M 840), respectively. Photograph of this type in the 1957-58 edition.

INSHORE MINESWEEPERS
(*Ondiepwater Mijnenvegers*)



ALBLAS 1960, *Erich Gröner*

16 New " Van Straelen " Class

ALBLAS	**MAHU**	**VAN MOPPES**
BUSSEMAKER	**SCHUILING**	**VAN STRAELEN**
CHÖMPFF	**STAVERMAN**	**VAN VERSENDAAL**
HOUTEPEN	**VAN DE WEL**	**VAN WELL GROENEVELD**
LACOMBLÉ	**VAN HAMEL**	**ZOMER**
	VAN HET HOFF	

Displacement: 151 tons *light* (169 tons *full load*) officially revised figures
Dimensions: 90 (*pp.*), 99½ (*o.a.*) × 18½ × 5¼ feet
Guns: 1—20 mm. AA.
Machinery: Werkskoor diesels. 2 shafts. B.H.P.: 1,100 = 13 kts.
Complement: 12

Notes

The United States and the Netherlands signed an agreement for the construction of 16 inshore minesweepers for the Royal Netherlands Navy at a cost of §16,900,000. Contracts were awarded as follows: 6 to Werf de Noord at Alblasserdam; 5 to N. V. de Arnhemse Scheepsboaw Maatschappij at Arnhem; and 5 to Amsterdamsche Scheepswerf G. de Vries Lentsch jr. at Amsterdam.

Eight of these ships were built under the offshore procurement programme, with MDAP funds, and the remaining eight were paid for by the Royal Netherlands Navy.

All ordered in mid-1957. Built of wood and non-magnetic materials. The keel for *Alblas*, the first of this new type of small minesweepers was laid at the yard of Werf de Noord N. V. at Alblasserdam on 26 Feb. 1958, she was launched on 29 June 1959, started trials on 15 Jan. 1960 and was completed on 12 Mar. 1960. *Bussemaker* was launched on 27 Feb. 1960 and started trials on 2 May 1960, and *Lacombe* was launched on 6 Feb. 1960 and started trials on 14 May 1960.

The first nine ships built are named after naval and marine officers who distinguished themselves during the Second World War. The remaining seven are named after naval ratings who were also decorated posthumously.

Recent Disposals

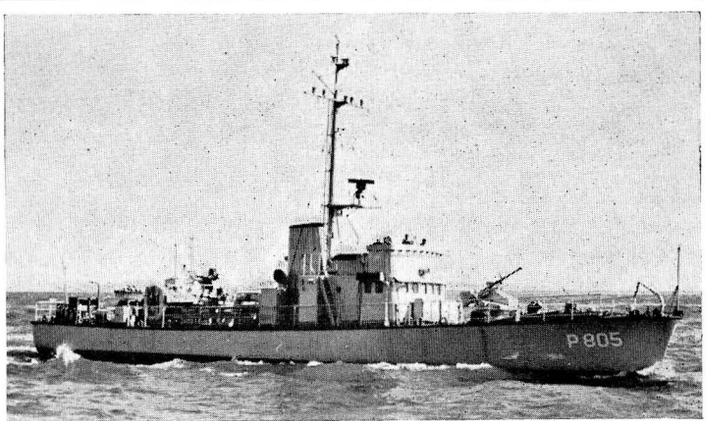
Of the ten fast motor minesweepers, formerly German " R " boats, nine were sold for scrap to Amsterdam in Feb. 1957 and the *Goeree* was disposed of later.

Keeten, *Mastgat* and *Zijpe*, former British harbour defence motor launches converted into shallow draught minesweepers, were scrapped in 1957.

All seven of the coastal minesweepers of the British MMS type, *Ameland*, *Beveland*, *Marken*, *Putten*, *Rozenburg*, *Terschelling* and *Texel*, were stricken from the Navy list in 1958 and are now in use as accommodation ships and tenders for sea cadets in various towns.

Of the coastal minesweepers of the U.S. *BYMS* type, *Hollands diep*, *Oosterschelde*, *Texelstroom* *Volkerak* and *Westerschelde* were deleted from the list in 1958, and the remaining five are serving as diving tenders with revised pennant numbers (see previous column).

PATROL VESSELS



HADDA 1960, *Royal Netherlands Navy, Official*

5 U.S. SC Type Submarine Chasers

BALDER	**FREYR**	**HADDA**
BULGIA		**HEFRING**

Displacement: 149 tons *standard* (225 tons *full load*) officially revised figures
Dimensions: 114⅜ (*pp.*), 119½ (*o.a.*) × 20¼ × 5⅞ feet
Guns: 1—40 mm., 3—20 mm.
A/S weapons: 2 D.C.T., Mousetrap
Machinery: Diesels. 2 shafts. S.H.P.: 1,050 = 15·5 kts.
Radius: 1,000 miles
Complement: 27

Notes

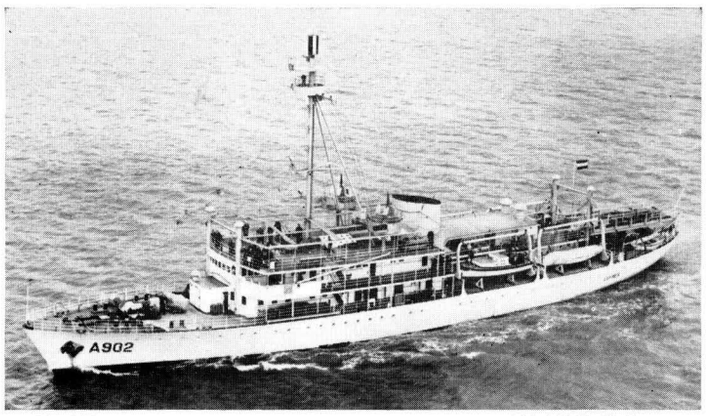
Built in the Netherlands by Rijkswerf Willemsoord with MDAP funds under the off-shore procurement programme. U.S. SC Nos. 1627-1631

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
P 802	*Balder*	12 Sep. 1953	24 Feb. 1954	6 Aug. 1954
P 803	*Bulgia*	10 Oct. 1953	24 Apr. 1954	9 Aug. 1954
P 804	*Freyr*	24 Feb. 1954	21 July 1954	1 Dec. 1954
P 805	*Hadda*	24 Apr. 1954	2 Oct. 1954	3 Feb. 1955
P 806	*Hefring*	21 July 1954	1 Dec. 1954	23 Mar. 1955

Recent Disposal

The patrol vessel *Queen Wilhelmina*, ex-American submarine chaser U.S.S. *PC* 468, which has been laid up since 1953, was awaiting removal from the active list in 1960.

SURVEYING VESSELS



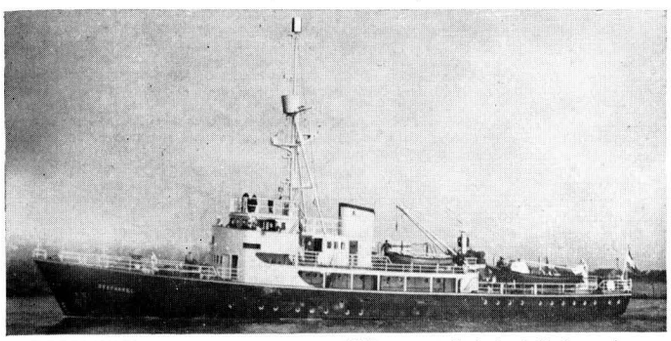
LUYMES — *Added* 1960, *Skyfotos*

2 Sloop Type

LUYMES	**SNELLIUS**
Displacement:	1,100 tons *standard* (1,538 tons *full load*) officially revised figures
Dimensions:	234½ × 35½ × 7 (*max.*) feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Machinery:	Two 6-cycle, 4-stroke Stork diesels. 2 shafts. B.H.P.: 2,000=15 kts.
Complement:	108

Notes
Fitted for service in the tropics. *Snellius* built by P. Smit, jr., Rotterdam. *Luymes* built by Gusto. Schiedam. A photograph os *Snellius* appears in the 1953-54 to 1959-60 editions.

No.	*Name*	*Laid down*	*Launched*	*Completed*
A 902	*Luymes*	4 Apr. 1949	21 Apr. 1951	4 May 1952
A 907	*Snellius*	3 Jan. 1949	14 Apr. 1951	4 Feb. 1952



ZEEFAKKEL — 1957, *courtesy Netherlands Hydrographer*

1 Patrol Type

ZEEFAKKEL

Displacement:	355 tons *standard* (384 tons *full load*) officially revised figures
Dimensions:	149 (*o.a.*) 24⅝ × 7 (*max.*) feet
Guns:	1—3 inch AA.; 1—40 mm. AA.
Machinery:	Two 8-cycle 4-stroke Smit M.A.N. diesels. 2 shafts. B.H.P.: 640=12 kts.
Complement:	29

Notes
This ship was originally ordered from Vuyk but her construction was transferred later to J. & K. Smit Kinderdijk where she was laid down in Sep. 1949, launched on 21 July 1950 and completed on 22 Mar. 1951. Commissioned on 23 Mar. 1951, for service in Dutch waters. Pennant No.: A 903.

1 Coastal Type

HYDROGRAAF

Displacement:	260 tons *standard* (289 tons *full load*) officially revised figures
Dimensions:	132½ × 22 × 9½ feet
Machinery:	Triple expansion I.H.P.: 400=10 kts.
Coal:	30 tons
Complement:	19

Notes
Built by Fijenoord, Rotterdam. Launched in 1910. Pennant No. A 901.

4 Inshore Type

DREG I	**DREG II**	**DREG III**	**DREG IV**
Displacement:	46 tons *standard* (48 tons *full load*) officially revised figures		
Dimensions:	65¾ × 15 × 5 feet		
Machinery:	H.P.: 120=9·5 kts.		
Complement:	10		

Notes
Dreg I and *Dreg II* were launched on 15 May 1950 and completed in July 1950. Pennant Nos. A 909, A 910, A 919 and A 920, respectively.

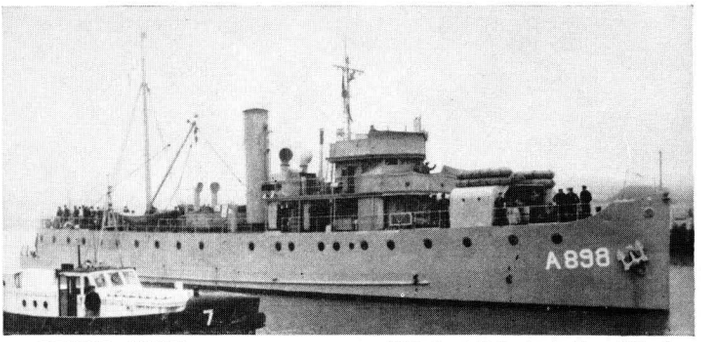
GATE VESSELS

4 Ex-Minesweepers

ABRAHAM CRIJNSSEN **ABRAHAM VAN DER HULST**	**JAN VAN GELDER** **PIETER FLORISZ**
Displacement:	441 tons *standard* (525 tons *full load*) officially revised figures
Dimensions:	183 × 25½ × 7 feet
Guns:	2—20 mm. AA.; 1 M.G.
Machinery:	Triple expansion. I.H.P.: 1,600=15 kts. (now suppressed)
Boilers:	2 Yarrow
Oil fuel :	110 tons (now none)
Complement:	20

Notes
Former minesweepers. Converted into gate vessels. Built by Werf Gusto except *Pieter Florisz* by Smit. Launched on 22 Sep. 1936, 27 May 1937, 17 Apr. 1937 and 11 May 1937, respectively, Pennant Nos. A 925, A 923, A 927, A 926. Now removed from the ship list and used as vessels for storing net defence gear. Photograph of *Jan van Gelder* in 1957-58 edition.

DEPOT SHIPS (ex-Minelayers)



DOUWE AUKES — 1960, *Royal Netherlands Navy, Official*

1 "Van Meerlant" Class

DOUWE AUKES

Displacement:	680 tons
Dimensions:	180½ × 28½ × 10½ feet
Guns:	2—40 mm. AA.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 1,050=13 kts.
Coal:	115 tons
Complement:	60

Notes
Built under the 1918 Programme by Werf Gusto, Schiedam. Launched on 23 Feb. 1922. Former minelayer, converted into an accommodation and repair ship for minesweepers in 1950. Pennant No A 898.

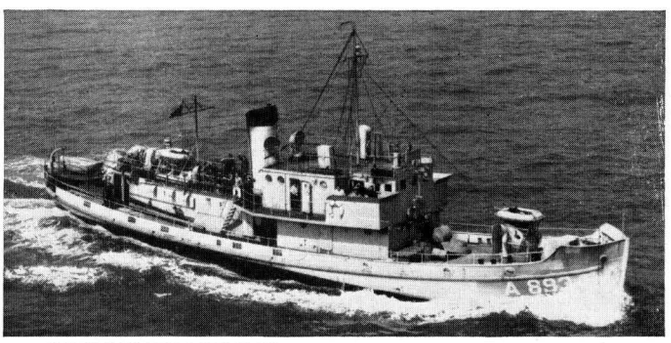
1 "Hydra" Class

MEDUSA

Displacement:	600 tons
Dimensions:	163 × 29½ × 9 feet
Guns:	2—40 mm. AA.
Machinery:	2 sets triple expansion. 2 shafts. I.H.P.: 800=11 kts.
Coal:	72 tons
Complement:	60

Notes
Built at Amsterdam Naval Yard. Launched in 1911. Former minelayer, refitted as an accommodation and repair ship for minesweepers. Pennant No. A 890.

ANTI-SUBMARINE EXPERIMENTAL SHIP



PAETS VAN TROOSTWIJCK — 1953, *Skyfotos*

1 Ex-German Whaler Type

PAETS VAN TROOSTWIJCK (ex-*Süd III*, ex-*Istre*, ex-*Thor Jr.*)

Displacement:	356 tons *standard* (442 tons *full load*)
Dimensions:	118 (*o.a.*), 110½ (*pp.*) × 22 × 12 feet
Guns:	2—20 mm. AA.
Machinery:	1 Triple expansion engine. I.H.P.: 550=10 kts.
Oil fuel:	73 tons
Complement:	17

Notes
Ex-German whaler. Built in 1924 at Akers Mekaniska Verksted. Sold in 1937 to German owners. Allocated to the Netherlands as reparations. Overhauled at the yard of the Nederlandse Dok en Scheepsbouw Mij. at Amsterdam 1949, and commissioned as an experimental Submarine Detection Ship on 1 July 1949. Pennant No.: A 893.

SUPPLY SHIPS (ex-Landing Ships)

1 Ex-U.S. Type

WOENDI (ex-*Steven van der Hagen*, ex-*LST* V, ex-*LST* 1034)

Displacement:	1,625 tons *light*, 3,770 tons *standard* (4,145 tons *full load*) officially revised figures
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	4—40 mm. AA., 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=11 kts.
Complement:	105

Notes
Built at Boston, Mass., in 1944. Seagoing store ship at Den Helder. Pennant No. A 832.

1 Ex-British Type

PELIKAAN (ex-H.M.S. *Thruster*, ex-*LST*)

Displacement:	2,840 tons *light*, 4,250 tons *standard* (6,538 tons *full load*) officially revised figures
Dimensions:	390 × 49 × 13 feet
Guns:	2—40 mm. AA., 10—20 mm. AA.
Machinery:	Turbine. S.H.P.: 7,000=17 kts.
Oil fuel:	2,100 tons (*max.*)
Complement:	98

Notes
Builders Harland &Wolff. Laid down 31 July 1941. Launched 24 Sep. 1942. Completed 14 Mar. 1943. Purchased and taken over from Great Britain 1947. Commissioned in the R.N.N. July 1948. Used as a store and accommodation ship at Den Helder. Pennant No. A 830. Photograph in the 1957-58 edition. Originally sister ship of H.M.S. *Boxer*.

WEATHER OBSERVATION SHIPS

2 Ex-U.S. PF Type Frigates

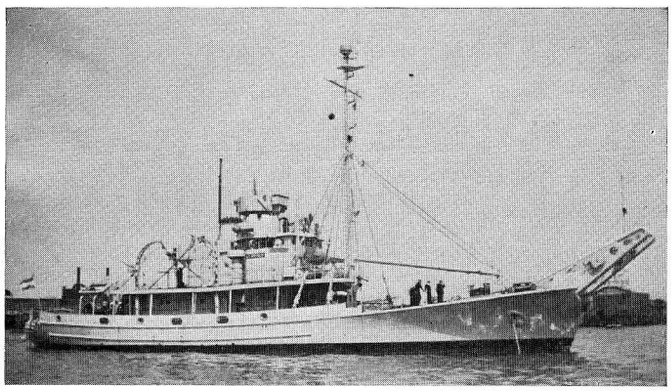
CIRRUS ex-U.S.S. *Abilene*) **CUMULUS** (ex-U.S.S. *Forsyth*)

Displacement:	1,100 tons
Dimensions:	304 (*o.a.*) × 37½ × 12 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=18 kts.
Oil fuel:	645 tons
Radius:	9,500 miles at 12 kts.
Complement:	83 to 86

Notes
Controlled by Ministry of Transport and manned by mercantile personnel. Former U.S. frigates, PF 58 and PF 102, respectively. Photograph of *Cumulus* in 1957-58 edition.

Name:	*Cirrus*	*Cumulus*
Builders:	Globe S.B. Co., Superior, Wis.	American S.B.Co., Cleveland, Ohio
Laid down:	6 May 1943	6 Dec. 1943
Launched:	21 Aug. 1943	20 May 1944
Completed	28 Oct. 1944	11 Feb. 1945

BOOM DEFENCE VESSEL



CERBERUS 1956, *Official*

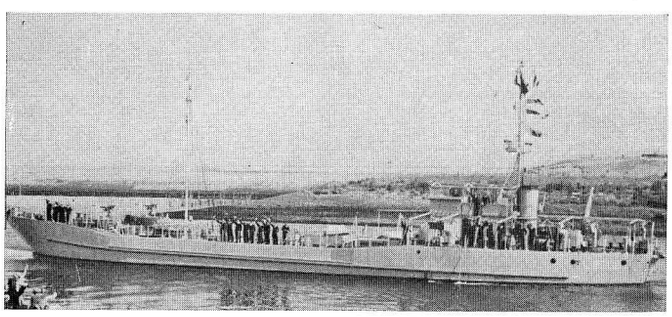
1 Ex-U.S. AN Type Netlayer

CERBERUS

Displacement:	680 tons *light*, 780 tons *standard* (902 tons *full load*) officially revised figures
Dimensions:	165 × 33 × 10 feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Diesel Electric. 1 shaft. B.H.P.: 1,500=12·8 kts.
Complement:	51

Notes
Pennant No. A 895. Built by Bethlehem Steel Company, Staten Island. Launched in May 1952. Completed on 10 Nov. 1952. Launched bow first. Commissioned 10 Nov. 1952 in U.S.A. and transferred from the United States Navy in December 1952.

LANDING CRAFT



L 9608 1955, *Official*

5 Ex-LCT(7) Type

L 9601 **L 9602** **L 9606** **L 9607** **L 9608**

Displacement:	438 tons *standard* (497 tons *full load*)
Guns:	2—20 mm. AA. (*L* 9607 and *L* 9608 only; others none)
Machinery:	Speed: 7 kts.
Complement:	20

Notes
Ex-British LCT (7) type. Officially re-rated as LST Type in 1958.

7 LCPR Type

L 9531 **L 9532** **L 9533** **L 9534** **L 9535** **L 9536** **L 9537**

Displacement:	55 tons
Machinery:	Diesels. 2 shafts. B.H.P.: 200=10 kts.
Guns:	2—12·7 mm. AA.
Complement:	6

Notes
LCPR type. Built by Rijkswerf Willemsoord Den Helder 1955. In the waters of New Guinea.

2 Ex-LCM Type

L 9661 **L 9662**

Notes
Ex-LCM type. Officially re-rated as LCMS type in 1958.

9 Ex-LCA Type

L 9505 **L 9508** **L 9516** **L 9519** **L 9521** **L 9523** **L 9525**
L 9509 **L 9518** **L 9520** **L 9522** **L 9524** **L 9526**

Notes
Ex-LCA type. Now officially rated as LCMS Type. L. 9501 and L 9502 were scrapped in 1957. L 9506 was officially deleted from the list in 1958 and L 9503, L 9504, L 9515 and L 9517 in 1960.

TRAINING SHIPS

1 Ex-German Type

HOBEIN (ex-*Doornbos*, ex-*Dornbusch*)

Displacement:	132 tons
Dimensions:	92 (*o.a.*), 83½ (*pp.*) × 19⅜ × 5½ feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Machinery:	Diesel. B.H.P.: 250=8·5 kts.
Complement:	10

Notes
Formerly German. Is used as a navigational training ship for midshipmen, but is officially listed as a patrol vessel. Pennant No. P 882. Renamed *Hobein* in July 1952.

1 Schooner Type

URANIA (ex-*Tromp*)

Displacement:	38 tons
Dimensions:	72 × 16½ × 10 feet
Machinery:	Diesel. H.P.: 65
Complement:	8

Notes
Schooner used for training cadets in seamanship. Commissioned on 23 Apr. 1938. Pennant No. Y 8050.

TENDERS

1 Torpedo Type

MERCUUR

Displacement:	240 tons *standard* (276 tons *full load*) officially revised figures
Dimensions:	137½ (*pp.*), 140 (*o.a.*) × 23 × 9 feet
Guns:	3—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 640=12 kts. (see *Notes*)
Complement:	31

Notes
Built by Rijkswerf Willemsoord. Launched on 26 Feb. 1936. Tender to Torpedo school. Pennant No. A 829. Being rebuilt in 1960 and equipped with a diesel engine.

1 Transport Type

HENDRIK KARSSEN (ex-*Y* 807, ex-*RC* 11, ex-*De Mok* 1)

Displacement:	172 tons *standard* (185 tons *full load*)
Dimensions:	137⅜ (*o.a.*), 114 (*pp.*) × 20⅜ × 5½ feet
Guns:	2—20 mm. AA.
Machinery:	2 Kromhout diesels. B.H.P.: 180=11 kts.
Complement:	18

Notes
Built by Rijkswerf Willemsoord. Launched in 1939. Midshipmen tender. Equipped with water monitors for fire fighting. Renamed *Hendrik Karssen* in 1954. Pennant No. A 857.

TUGS

1 New Construction

WAMANDAI

Notes
A new tug building at the Rijkswerf, Willemsoord, Den Helder. Launched on 28 May 1960. Practically identical to *Wambrau* (see below) and also for use in the waters of New Guinea.

1 Salvage Type

HERCULES (ex-*Walcheren XII*, ex-*Atlas*)

Displacement:	400 tons *standard* (440 tons *full load*)
Dimensions:	142 × 29 × 15 feet
Guns:	2—20 mm. AA.
Machinery:	M.W.M. diesel. B.H.P.: 840=12 kts.
Complement:	20 (28 as diving tender)

Notes
Built as a tug for the German Air Force Flotilla. Launched by Nobiskrug Dockyard, Rendsburg in 1944. Completed in Amsterdam in 1950. Fitted with pumps and salvage gear. Used as salvage vessel and diving tender. Commissioned on 18 Jan. 1951. Pennant No. A 828. Photograph in the 1957-58 edition.

1 Coastal Type

ORKAAN

Displacement:	221 tons *standard* (249 tons *full load*)
Dimensions:	91⅜ × 20½ × 10½ feet
Guns:	1—20 mm. AA.
Machinery:	M.A.N. diesel. B.H.P.: 1,200=12 kts
Complement:	15

Notes
Built by Werf Gebr. Fikkers, Martenshoek. Launched in 1949. Commissioned on Nov. 7 1949. Pennant No. A 837.

1 Tropical Type

WAMBRAU

Displacement:	154 tons *standard* (184 tons *full load*)
Dimensions:	86½ (*o.a.*) × 20⅜ × 7½ feet
Machinery:	Werkspoor diesel and Kort nozzle. B.H.P.: 500=10·8 kts.

Notes
Built by Rijkswerf Willemsoord. Launched on 27 Aug. 1956. Completed on 8 Jan. 1957 For naval service in New Guinea. Shipped to New Guinea in Jan. 1957. Equipped with salvage pumps and fire implements. No armament.

1 MV Type

A 847 (ex-*MV* 4, ex-*Hollandia*)

Displacement:	250 tons *standard* (317 tons *full load*)
Dimensions:	88 × 20 × 8¼ feet
Guns:	1—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 450=7 kts.
Complement:	17

Notes
Built by Schiffswerft Unterweser. Launched in 1917. Ex-trawler, which was equipped as an auxiliary minesweeper during the Second World War.

4 Harbour Type

BERKEL **DINTEL** **DOMMEL** **IJSSEL**

Displacement:	139 tons *standard* (163 tons *full load*)
Dimensions:	82 (*o.a.*) × 20½ × 7⅓ feet
Machinery:	Werkspoor diesel and Kort nozzle. B.H.P.: 500

Notes
These four new harbour tugs were built for the Royal Netherlands Navy at the yard of H. H. Bodewes, Millingen. They were specially designed for use at Den Helder. Completed on 27 Dec. 1956, 23 Jan. 1957, 27 Feb. 1957 and 27 Mar. 1957, respectively.

ROYAL NORWEGIAN NAVY

Administration

Minister of Defence: Mr. N. Handal.
Parliamentary Secretary: Mr. Erik Himle.
Permanent Under-Secretary: Mr. J. Modalsli.
Commander-in-Chief:
Vice-Admiral Erling Hostvedt, R.No.N.
Chief of Naval Staff:
Rear-Admiral R. A. Tamber, D.S.C., R.No.N.
Chief of Staff (Operations):
Commodore H. Skjong, R.No.N.

Naval Attaché, London:
Captain Sjur. N. Ostervold, D.S.C., R.No.N.

Personnel

1960: 5,000 officers and ratings.
Since Mar. 1959 the suffix " R.No.N." has been used instead of " R.Nor.N.", it is officially stated.

Ships

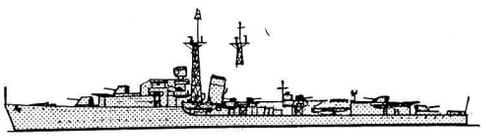
Norwegian warships are referred to officially with the prefix K.N.M., equivalent to H.M.S.

Mercantile Marine

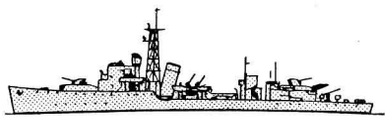
Lloyd's Register of Shipping:
2,714 ships of 10,444,268 tons *gross*.

Silhouettes

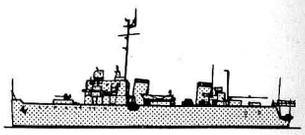
Scale: 150 ft.=1 inch.



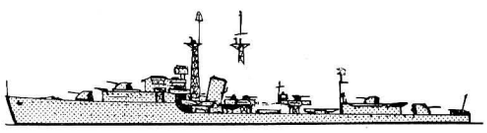
OSLO (BERGEN inset)



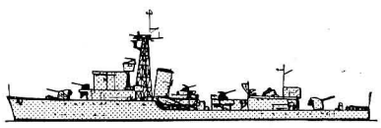
NARVIK



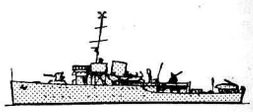
BRAGE, GOR, TYR



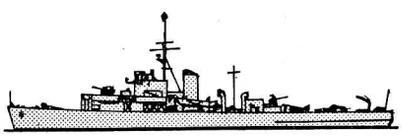
TRONDHEIM (STAVANGER inset)



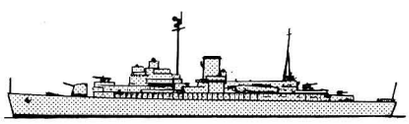
ARENDAL, HAUGESUND, TROMSÖ



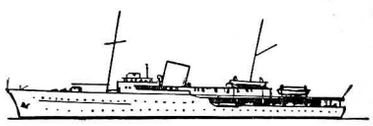
GLOMMA, TANA



DRAUG, TROLL, GARM



HAAKON VII



NORGE

DESTROYERS

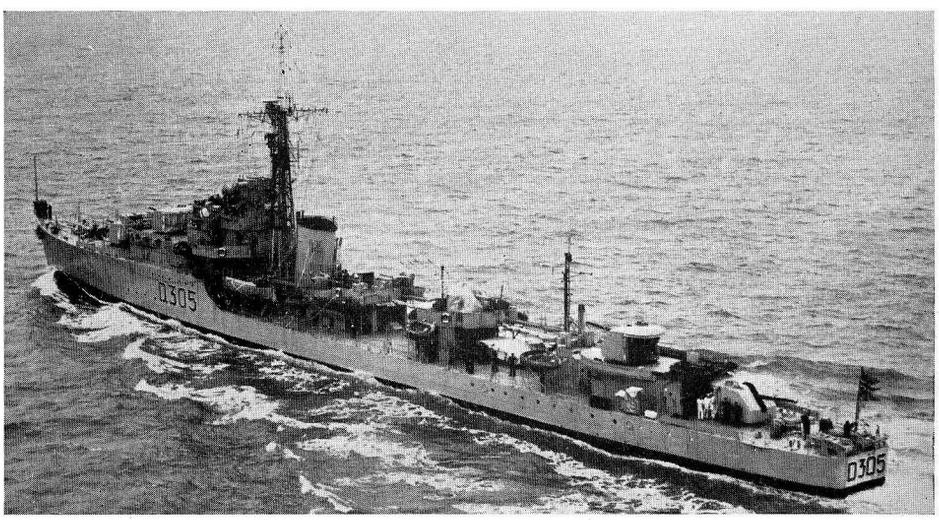
4 Ex-British " C " Class

BERGEN (ex-*Cromwell*, ex-*Cretan*)
OSLO (ex-*Crown*)
STAVANGER (ex-*Crystal*)
TRONDHEIM (ex-*Croziers*)

Displacement:	*Bergen, Oslo* 1,710 tons *standard*, *Stavanger, Trondheim* 1,786 tons *standard* (2,640 tons *full load*)
Dimensions:	362¾ × 35¾ × 16 feet
Guns:	4—4·5 inch d.p., 6—40 mm. AA.
Tubes:	4—21 inch (quadrupled)
A/S weapons:	4 D.C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts. (trial speeds 31·5 kts. first two, 32·8 others). Sea speed 32 kts.
Boilers:	2, of 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	241

Pennant Nos.	*Name*	*Builders*
D 304	*Bergen*	Scotts' S.B. & Eng. Co. Ltd., Greenock
D 303	*Oslo*	
D 306	*Stavanger*	Yarrow & Co. Ltd., Scottsoun, Glasgow
D 305	*Trondheim*	

Name	*Laid down*	*Launched*	*Completed*
Bergen	24 Nov. 1943	6 Aug. 1945	16 Sep. 1946
Oslo	16 Jan. 1944	19 Dec. 1945	17 Apr. 1947
Stavanger	13 Jan. 1944	12 Feb. 1945	6 Feb. 1946
Trondheim	26 Oct. 1943	19 Sep. 1944	30 Nov. 1945



TRONDHEIM

Added 1958, *Skyfotos*

General Notes
" C " class destroyers purchased from Great Britain in 1946. The construction of these vessels is entirely welded. *Oslo* is fitted as the squadron leader.

Photograph Notes
A large broadside view of *Bergen* appears in the 1957-58 to 1959-60 editions, a larger photograph of *Oslo* in the 1959-60 edition, and a port bow view of *Stavanger* in the 1959-60 edition.

New Acquisitions
In Aug. 1959 Norway rejected a United States offer of two destroyers, claiming they would be too uneconomical to operate.

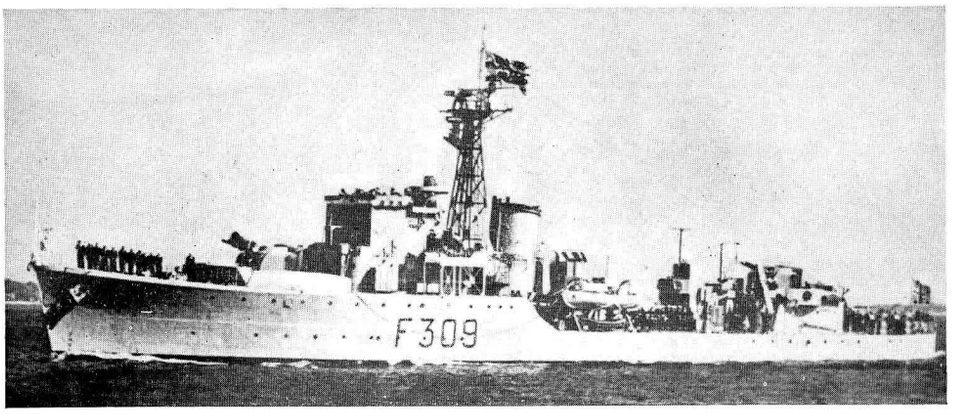
Recent Disposal
The former British destroyer *Stord* (ex-H.M.S. *Success*) purchased from Great Britain in 1946, see full details and photograph in the 1958-59 edition, was stricken from the Navy List in 1959, it is officially stated.

FRIGATES

1 Ex-British "Hunt" Class, Type III
(*Escort Destroyer*)

NARVIK (ex-*Glaisdale*)

Pennant No.:	F 309
Builders:	Cammell Laird & Co Ltd., Birkenhead
Laid down:	4 Feb. 1941
Launched:	5 Jan. 1942
Completed:	12 June 1942
Displacement:	1,230 tons *standard* (1,550 tons *full load*)
Dimensions:	264¼ (*pp.*), 280 (*o.a.*) × 31½ × 13 (*max.*) feet
Guns:	4—4 inch AA., 3—40 mm. AA., 2—20 mm. AA.
Tubes:	2—21 inch (twin)
A/S weapons:	2 D.C.T
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=29 kts. designed (sea speed 25 kts.)
Boilers:	2, of 3-drum type
Oil fuel:	280 tons
Radius:	3,700 miles at 14 kts.
Complement:	202



NARVIK — 1960, *Royal Norwegian Navy, Official*

Notes

Purchased from Great Britain in 1946. Of former British "Hunt" class, Type III escort destroyers, later re-rated as frigates. Now has short lattice foremast in place of her former tripod mast and a sturdy, raked funnel instead of the former vertical funnel with raked top, thus obviating the principal feature which distinguished this Type III "Hunt" from her half sisters of the Type II "Hunts." She was given an F instead of a D pennant number in 1956

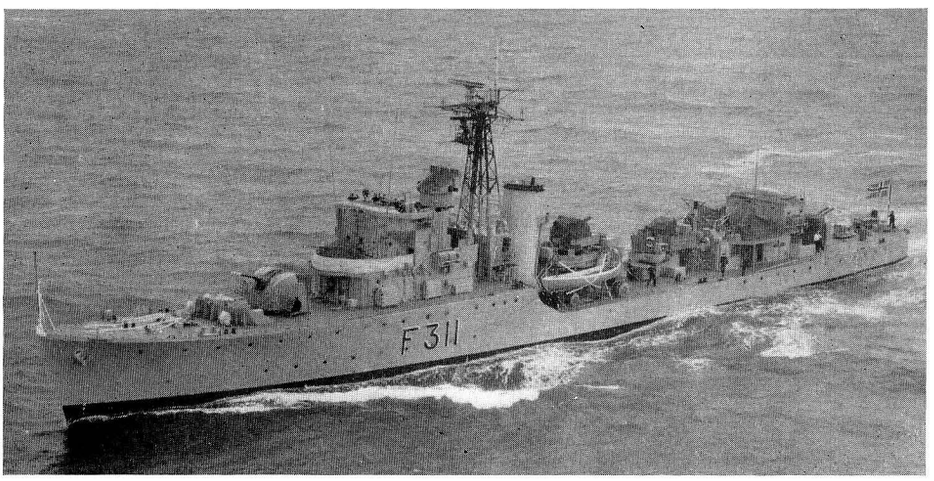
3 Ex-British "Hunt" Class, Type II
(*Escort Destroyers*)

ARENDAL (ex-*Badsworth*) **TROMSO** (ex-*Zetland*)
HAUGESUND (ex:*Beaufort*)

Displacement:	1,217 tons *standard* (1,554 tons *full load*) *Arendal* 1,230 tons *standard* (1,558 tons *full load*)
Dimensions:	280 (*o.a.*) × 31½ × 13 (*max.*) feet
Guns:	4—4 inch AA., 4—40 mm. AA. (*Haugesund* and *Tromsö*), 6—4 inch AA., 2—40 mm. AA., 4—20 mm. Oerlikon AA. (*Arendal*)
A/S weapons:	2 squids in "X" position (replaces "X" guns)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 19,000=27 kts. designed (sea speed *Arendal* 25 kts., other two 26 kts.)
Boilers:	2, of 3-drum type
Oil fuel:	280 tons
Radius:	3,700 miles at 14 kts.
Complement:	*Arendal* 211, other two 198

Pennant Nos.	*Name*	*Builders*
F 310	*Arendal*	Cammell Laird & C. Ltd., Birkenhead
F 312	*Haugesund*	
F 311	*Tromsö*	Yarrow & Co. Ltd., Scotstoun, Glasgow

Name	*Laid down*	*Launched*	*Completed*
Arendal	15 May 1940	17 Mar. 1941	18 Aug 1941
Haugesund	17 July 1940	9 June 1941	3 Nov. 1941
Tromsö	2 Oct. 1940	7 Mar. 1942	27 June 1942



TROMSÖ — 1958, *Skyfotos*

General Notes

Arendal (Norwegian commissioned on 16 Nov. 1944) was purchased from Great Britain in 1946. The other two were transferred by Great Britain at the end of 1952 on loan to the Royal Norwegian Navy for 4 years and were sold outright to Norway in July 1956. Of former British "Hunt" class, Type II escort destroyers, later re-rated as frigates. *Haugesund* and *Tromsö* were refitted with lattice mast and 2 squids in place of "X" twin gun mounting in 1954, *Arendal* was recently used as Cadets' Training Ship; she was refitted with lattice mast in 1955. All three ships were given F, instead of D, pennant numbers, in 1956

Photograph Notes

Photographs of *Haugesund* appear in the 1956-57 to 1959-60 editions, and of *Arendal* in the 1953-54 to 1955-56 editions.

Recent Disposals

The four frigates of the "Sleipner" class, *Balder*, *Gyller*, *Odin* and *Tor*, originally classified as torpedo boats but later re-rated and converted into escort vessels, see full details and photograph in the 1958-59 edition, were stricken from the Navy List in 1959 it is officially stated. Sister ship *Sleipner* was sold.

The three "Flower" class frigates *Andenes*, *Nordkyn* and *Söröy* were stricken from the Navy List in 1956 and sold to whaling companies. Officially stated:— *Andenes* sold to the Union Whaling Company, Sandefjord on 17 Apr. 1956; *Nordkyn* (new name *Thoris*) and *Söröy* to Thor Dahl, Ltd., Sandefiord on 4 Aug. 1956, all three for use as buoy ships.

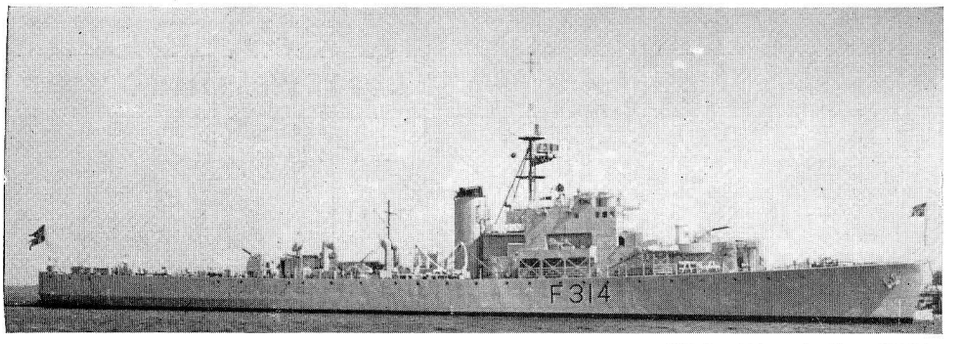
3 Modernised Canadian "River" Class

DRAUG (ex-*Penetang*) **TROLL** (ex-*Prestonian*)
GARM (ex-*Toronto*)

Displacement:	1,570 tons *standard* (2,249 tons *full load*)
Dimensions:	301½ × 36½ × 16 feet
Guns:	2—4 inch, 6—40 mm. AA.
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Triple expansion reciprocating 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 Admiralty three-drum type
Oil fuel:	720 tons
Radius:	9,500 miles at 12 kts.
Complement:	140

Pennant No.	*Name*	*Builders*
F 313	*Draug*	Davie Shipbuilding Co., Lauzon, P.Q.
F 315	*Garm*	Davie Shipbuilding Co., Lauzon, P.Q.
F 314	*Troll*	Davie Shipbuilding Co., Lauzon, P.Q.

Name	*Launched*	*Completed*	*Transferred*
Draug	6 July 1944	19 Oct. 1944	25 Jan. 1956
Garm	18 Sept. 1943	6 May 1944	March 1956
Troll	22 June 1944	13 Sep. 1944	March 1956



TROLL — 1957, *Royal Norwegian Navy, Official*

Notes

Originally of basically similar design to British "River" class, but in 1953-54 were modernised by Canada for anti-submarine warfare and converted to flush-deckers with forecastle deck extended right aft, much larger bridge, taller funnel to clear it, bigger mast, and hull forward strengthened against ice. They were lent to Norway by Canada in 1956, *Draug* being taken over by the Royal Norwegian Navy on 25 Jan. 1956, and the other two in March 1956. Their ownership was transferred to the Norwegian Government outright early in 1959. All are being employed on fishery protection duties.

Photograph Notes

A photograph of *Garm* appears in the 1955-56 to 1959-60 editions.

SUBMARINES (*Undervannsbåter*)

New Construction

Notes
It was announced in July 1959 that the United States and Norway are to share equally the cost of several small, modern submarines to be built under a modernisation programme. The new submarines are to be of 750 tons displacement with a crew of 30.

5 Ex-British "U" Class

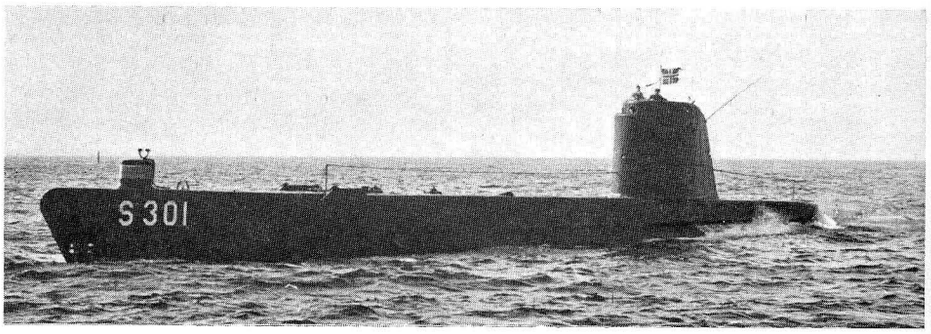
ULA (ex-H.M.S. *Varne*)
UTHAUG (ex-H.M.S. *Votary*)
UTSIRA (ex-H.M.S. *Variance*)
UTSTEIN (ex-H.M.S. *Venturer*)
UTVAER (ex-H.M.S. *Viking*)

Displacement:	545 tons *standard*, 660 tons *surface*; 740 tons *submerged*
Dimensions:	204½ × 16 × 12¾ feet
Tubes:	4—21 inch
Machinery:	2 Davey Paxman diesels. 2 electric motors. H.P.: 1,050 = 12 kts.
Oil fuel:	55 tons
Radius:	4,000 miles at 10 kts.
Complement:	43

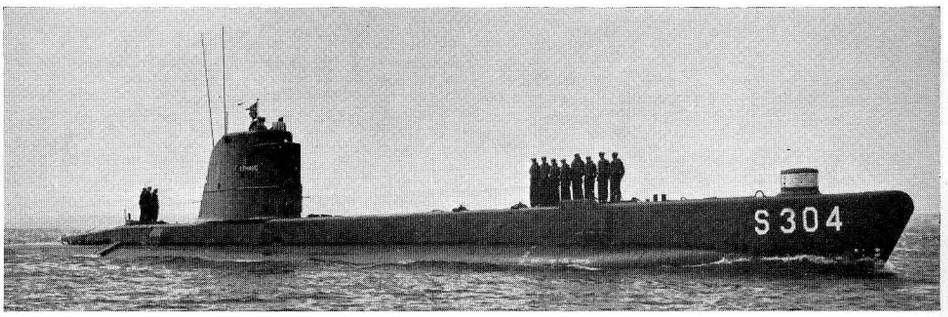
Notes
All purchased from Great Britain. Converted and modernised in 1955-56, see entirely new appearance in top photo. Gun removed, conning tower rebuilt and enlarged, streamlined throughout, equipped with snort, and fitted with sonar dome forward. Named after features of the Norwegian seaboard. *Ula* is name of the birthplace of Ulabrand the navigator.

Pennant No.	*Name*	*Builders*
S 300	*Ula*	Vickers-Armstrongs (Barrow)
S 304	*Uthaug*	Vickers-Armstrongs (Tyne)
S 301	*Utsira*	Vickers-Armstrongs (Barrow)
S 302	*Utstein*	Vickers-Armstrongs (Barrow)
S 303	*Utvær*	Vickers-Armstrongs (Barrow)

Name	*Laid down*	*Launched*	*Completed*
Ula	29 Apr. 1942	22 June 1943	3 Apr. 1944
Uthaug	21 Apr. 1943	21 Aug. 1944	13 Dec. 1944
Utsira	21 May 1943	22 May 1944	24 Aug. 1944
Utstein	25 Aug. 1942	4 May 1943	19 Aug. 1943
Utvær	3 Sep. 1942	5 May 1943	30 Aug. 1943



UTSIRA — *Added 1959, Royal Norwegian Navy, Official*



UTHAUG — 1957, *Wright & Logan*

3 Ex-German VII C Type

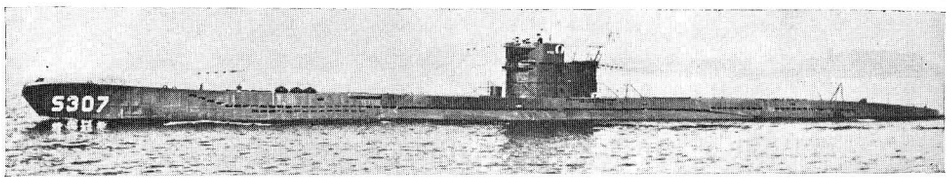
KAURA (ex-*U* 995)
KYA (ex-*U* 926)
KINN (ex-*U* 1202)

Displacement:	769 tons (*surface*), 871 tons *submerged*)
Dimensions:	220 × 20 × 15 feet
Tubes:	5—21 inch
Machinery:	Krupp diesels. Electric motors. H.P.: 3,900 = 17 kts.
Oil fuel:	100 tons
Radius:	6,500 miles at 12 kts.
Complement:	47

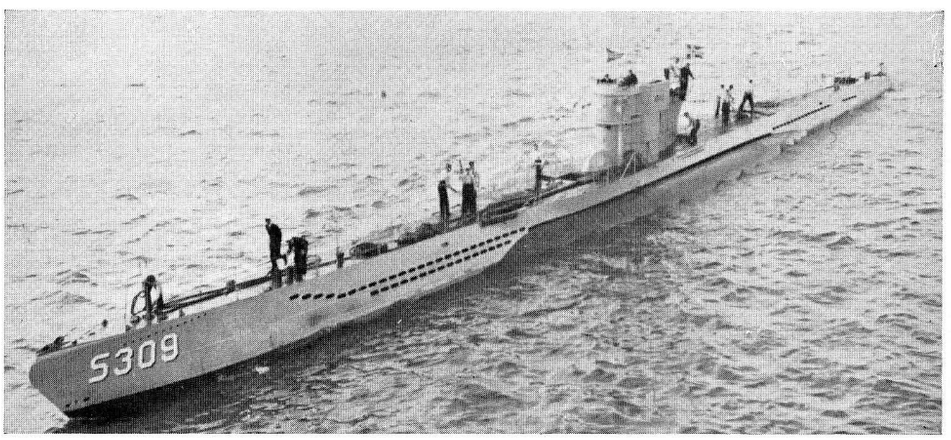
Notes
Ex-German *VII C* Type. All equipped with snort. *Kaura* was allocated to Great Britain but handed to Norway. Acquired in Oct. 1948. Have all undergone major refit.

Pennant No.	*Name*	*Builders*
S 309	*Kaura*	Blohm & Voss, Hamburg
S 307	*Kya*	Neptun, Rostok
S 308	*Kinn*	Schichan, Danzig

Name	*Launched*	*Completed*
Kaura	1941	1942
Kya	1942	1943
Kinn	1942	1943



KYA — 1957, *Royal Norwegian Navy, Official*



KAURA — *Added 1957, courtesy Keith Long, Esq.*

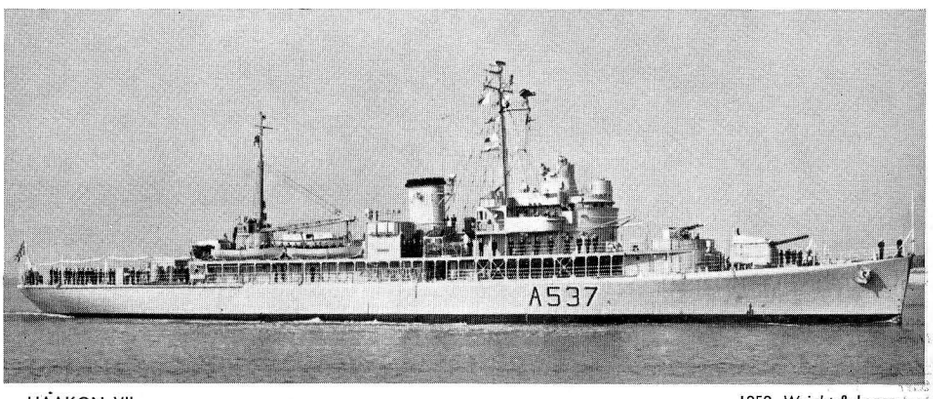
CADET TRAINING SHIP

1 Ex-U.S. AVP Type

HAAKON VII (ex-U.S.S. *Gardiners Bay*, *AVP* 39)

Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310⅜ (*o.a.*) × 41⅛ × 13½ (*max.*) feet
Guns:	1—5 inch, 38 cal. d.p., 10—40 mm. AA., 2—20 mm. AA.
Machinery:	2 sets F.M. diesels. 2 shafts. B.H.P.: 6,080 = 18·2 kts.
Complement:	215 ship's company, plus 86 officer cadets and petty officer apprentices (accommodation for 367)

Notes
Formerly a United States seaplane tender (small) of the AVP type. Built by Lake Washington Shipyard, Houghton, Wash. Laid down on 14 Mar. 1944, launched on 2 Dec. 1944 and completed on 11 Feb. 1945. Transferred from the United States Navy to the Royal Norwegian Navy on 17 May 1958 and converted and rearmed for use as a training ship or midshipmen and naval cadets.



HAAKON VII — 1959, *Wright & Logan*

OCEAN MINESWEEPERS (Wooden)



NAMSEN — *Royal Norwegian Navy, Official*

2 U.S. MSO (ex-AM) Type

LAGEN (ex-*MSO* 498) **NAMSEN** (ex- *MSO* 499)

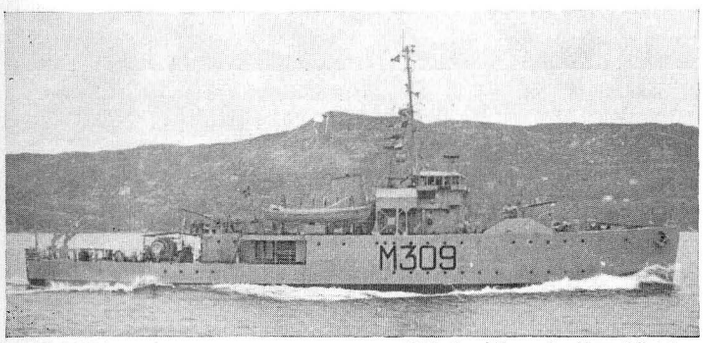
Name:	*Lagen*	*Namsen*
Pennant Nos.:	M 950	M 951
Builders:	Bellingham Shipyard ,Inc., U.S.A.	Bellingham Shipyard, Inc., U.S.A.
Laid down:	1954	1954
Launched	1955	1955
Completed:	27 Sep. 1955	1 Nov. 1955

Displacement:	665 tons *light* (750 tons *full load*)
Dimensions:	165 (*w.l.*), 171 (*o.a.*) × 35 × 9½ (*mean*) 11 (*max.*) feet
Guns:	1—40 mm. AA.
Machinery:	4 diesels. 2 shafts. B.H.P.: 1,600 = 15·5 kts.
Oil fuel:	46 tons
Radius:	2,400 miles at 12 kts.
Complement:	60

Notes

These ships, which have wooden hulls and non-magnetic equipment, are of the Ocean Minesweeper, MSO (ex-fleet Minesweeper, AM) type acquired from the United States under Mutual Defense Assistance Program. They were taken over by the Royal Norwegian Navy on 27 Sep. and 1 Nov. 1955, respectively, and sailed for Norway in May, 1956. Pennant Nos. M 950 and M 951, respectively.

FLEET MINESWEEPERS (*Steel*)



GLOMMA — 1960, *Royal Norwegian Navy, Official*

2 Ex-British "Bangor" Class

GLOMMA (ex-H.M.S. *Bangor*) **TANA** (ex-H.M.S. *Blackpool*)

Name:	*Glomma*	*Tana*
Pennant Nos.:	M 309	M 310
Builders:	Harland & Wolff (Govan)	Harland & Wolff (Govan)
Laid down:	19 Sep. 1939	19 Sep. 1939
Launched:	23 May 1940	4 July 1940
Completed:	4 Nov. 1940	7 Feb. 1941

Displacement:	606 tons *standard* (700 tons *full load*)
Dimensions:	162 × 28 × 8½ feet
Guns:	1—3 inch AA., 1—40 mm. AA., 2—20 mm. AA.
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 2,000 = 16 kts.
Complement:	72

General Notes

Former British "Bangor" class Fleet Minesweepers of the Diesel type. Both were purchased from Great Britain in 1946.

Gunnery Notes

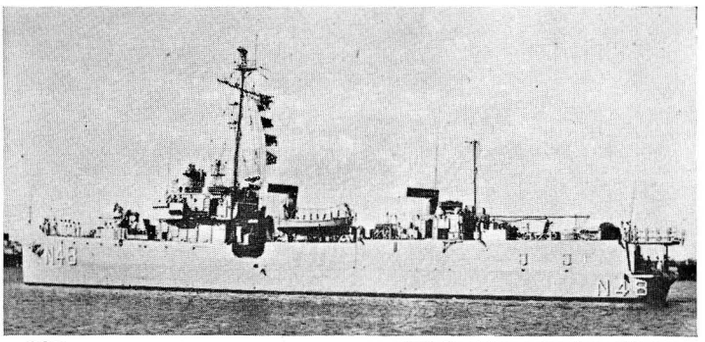
Both ships now have the 3 inch gun without a shield on the forecastle, and a single 40 mm. mounting at the break in the forecastle deck level.

Recent Disposals

The two coastal minelayers of the converted American medium landing ship type, *Vale* (ex-U.S.S. *LSM* 492) and *Vidar* (ex-U.S.S. *LSM* 493), were returned to the U.S. Navy on 1 Oct. 1960.

The two auxiliary minelayers of the converted British tank landing craft type, *Reinöysund* and *Vargsund* are scheduled to be removed from the Navy List during 1960.

COASTAL MINELAYERS



GOR — 1960, *Royal Norwegian Navy, Official*

4-Ex U.S. "Auk" Class (Converted Fleet Minesweepers)

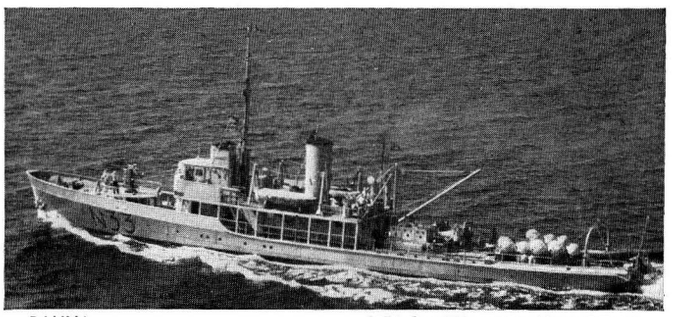
BRAGE (ex-U.S.S. *Triumph*, MMC 3, ex-*MSF* 323, ex-*AM* 323)
GOR (ex-U.S.S. *Strive*, MMC 1, ex-*MSF* 117, ex-*AM* 117)
TYR (ex-U.S.S. *Sustain*, MMC 2, ex-*MSF* 119, ex-*AM* 119)
KNM (ex-U.S.S. *Seer*, MMC 4, ex-*MSF* 112, ex *AM* 112)

Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221⅛ (*o.a.*) × 32⅛ × 11 feet
Guns:	1—3 inch, 50 cal. dual purpose; 4—20 mm. AA.
A/S weapons:	2 Hedgehogs, 3 depth charge throwers
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 2,070 = 16 kts.
Complement:	105

Notes

Former American mine vessels originally known as Ocean Minesweepers (AM) of the large steel-hulled type, reclassified as Fleet Minesweepers (MSF) in Feb. 1955. *Gor*, *Seer* and *Tyr* were built by the American Shipbuilding Company, Cleveland, Ohio, and *Brage* by Associated Shipbuilders. *Gor* and *Tyr* were converted into coastal minelayers at Charleston, S.C., Naval Shipyard for transfer from the United States Navy to the Royal Norwegian Navy under the Mutual Defense Assistance Program late in 1959, and *Brage* was converted at the same yard in 1960, but *Seer* is being converted at a Norwegian shipyard.

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
N 49	*Brage*	27 Oct. 1942	25 Feb. 1943	3 Feb. 1944
N 48	*Gor*	17 Nov. 1941	16 May 1942	27 Oct. 1942
N 50	*Seer*	28 Nov. 1941	23 May 1942	21 Oct. 1942
N 47	*Tyr*	17 Nov. 1941	23 June 1942	9 Nov. 1942



RAUMA — 1956, *Royal Norwegian Navy, Official*

2 "Otra" Class

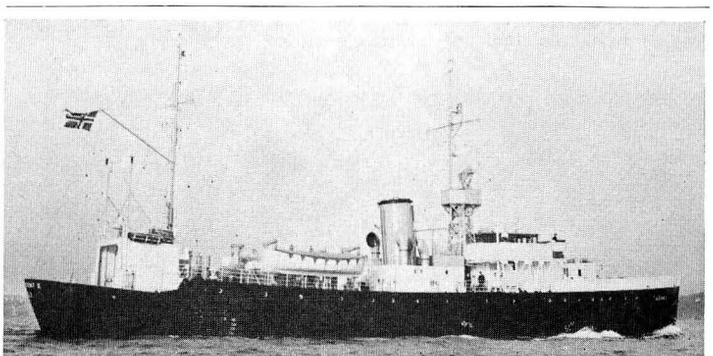
OTRA **RAUMA**

Displacement:	311 tons *standard* (350 tons *full load*)
Dimensions:	168⅓ × 23⅓ × 11⅜ feet
Guns:	1—3 inch, 2—20 mm.
Machinery:	2 Triple expansion. I.H.P.: 900 = 14 kts
Oil fuel:	60 tons
Complement:	31

Notes

Both were laid down at Nyland Mek. Verksted, Oslo, in Jan. 1939. *Otra* was completed in Sep. 1939. *Rauma* was completed in Jan. 1940. Pennant Nos. N 34 and N 33, respectively.

WEATHER SHIPS (ex-*Frigates*)



POLARFRONTII — *K. Knudsen & Co., A/S Bergen, courtesy Royal Norwegian Navy*

2 Ex-British "Flower" Class

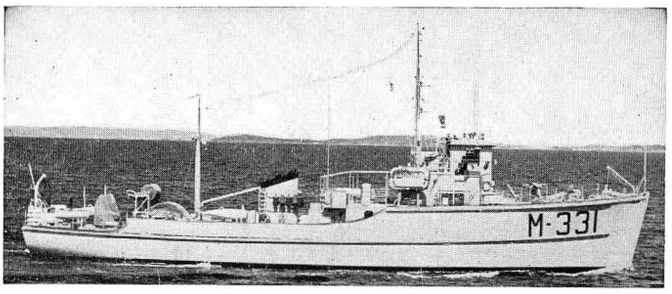
	POLARFRONT I (ex-*Saxifrage*)	**POLARFRONT II** (ex-*Bryony*)
Name:	*Polarfront I*	*Polarfront II*
Builders:	Charles Hill & Sons Ltd., Bristol	Harland & Wolff Ltd., Belfast
Laid down:	1 Feb. 1941	16 Nov. 1940
Launched:	24 Oct. 1941	15 Mar. 1941
Completed:	6 Feb. 1942	16 June 1942

Displacement:	1,060 tons *standard* (1,300 tons *full load*)
Dimensions:	205 (*o.a.*) × 33 × 14½ (*max.*) feet
Machinery:	Triple expansion. I.H.P.: 2,750 = 16·5 kts.
Boilers:	2 S. E.
Oil fuel:	350 tons
Radius:	7,000 miles at 10 kts.
Complement:	46

Notes

Former British "Flower" class corvettes (later re-rated as frigates) transferred to Norway and employed as weather ships.

COASTAL MINESWEEPERS



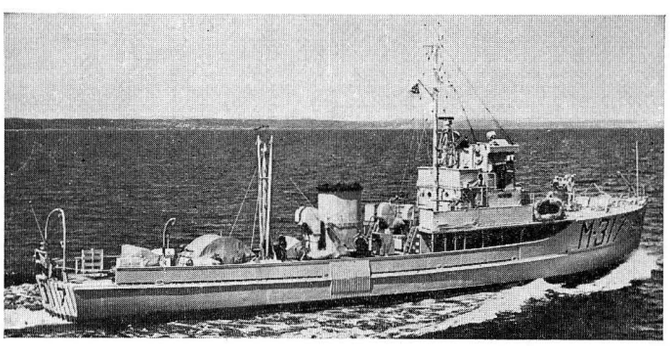
TISTA 1956, *R.Nor.N., Official*

7 U.S. MSC (ex-AMS) Type

KVINA M 332
OGNA M 315
SAUDA (*ex*-U.S.S. *AMS* 102) M 311
SIRA (*ex*-U.S.S. *MSC* 132) M 312
TISTA M 331
UTLA M 334
VOSSO M 316

Displacement:	333 tons *standard* (384 tons *full load*)
Dimensions:	144×28×8½ (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	G.M. diesels. B.H.P.: 880=13·5 kts.
Oil fuel:	25 tons
Complement:	38

Notes
Sauda launched July, 1953, by Hodgedon Bros., Gowdy & Stevens, East Boothbay, Maine, and completed 25 Aug. 1953. *Sira* completed 28 Nov. 1955. Hull of wood. Five wooden coastal minesweepers of the non-magnetic AMS type built in Norway, engines in U.S. Launched 21 July 1954 (*Kvina*), 18 June 1954 (*Ogna*), 1 June 1954 (*Tista*), 16 June 1954 (*Vossa*), 2 Mar. 1955 (*Utla*), completed 5 Mar. 1955 (*Ogna*), 16 Mar. 1955 (*Vossa*), 27 Apr. 1955 (*Tista*), 12 July 1955 (*Kvina*), 15 Nov. 1955 (*Utla*). *Kvina*, *Ogna* and *Utla* built by Westermoens Batbyggeri, Mandal, *Tista* by Forenede Batbyggerier, Risör, *Vosso* by Skaaluren Skibsbyggeri, Rosendal.



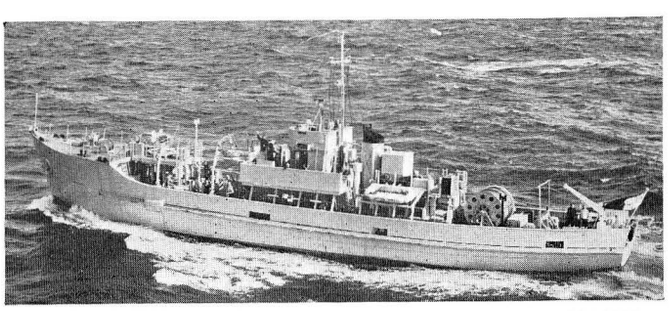
VINSTRA 1956, *Royal Norwegian Navy, Official*

4 Ex-U.S. YMS Type

BEGNA (ex-*NYMS* 381)
DRIVA (ex-*NYMS* 377)
GAULA (ex-*NYMS* 305)
RANA (ex-*NYMS* 406)

Displacement:	260 tons *standard* (350 tons *full load*)
Dimensions:	136×24½×8½ feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 1,000=14 kts.
Oil fuel:	18 tons
Complement:	33

Notes
Former United States auxiliary minesweepers of the YMS type. Of wooden construction. All transferred to the Royal Norwegian Navy under the Lend Lease scheme, *Alta*, *Begna* and *Vorma* on 22 Mar. 1945, remainder on 18 May 1945. Pennant Nos. 322, 319, 318 and 330, respectively.
Recent Disposals
Sister ships *Alta* (ex-*NYMS* 379) *Vinstra* (ex-*NYMS* 247) and *Vorma* (ex-*NYMS* 480) were stricken from the Navy List in 1959, it is officially stated.



MMS *Added* 1957

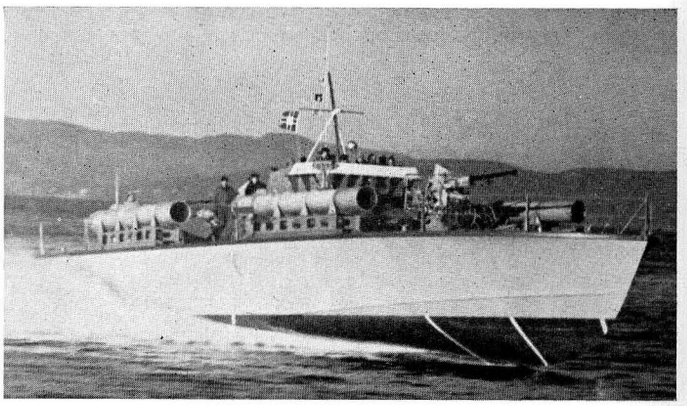
2 Ex-British MMS II Type (X-ray Ships)

ORKLA (*ex-MMS* 1085)
VEFSNA (*ex-MMS* 1086)

Displacement:	360 tons *standard* (408 tons *full load*)
Dimensions:	126 (*pp.*), 140 (*o.a.*)×26×12½ (*max.*) feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 500=10 kts.
Oil fuel:	55 tons
Complement:	21

Notes
Former motor minesweepers of MMS II type purchased from Great Britain in June 1946. Of wooden hull construction. Now equipped as X-ray ships. Pennant Nos. M 313 and M 314, respectively.

MOTOR TORPEDO BOATS



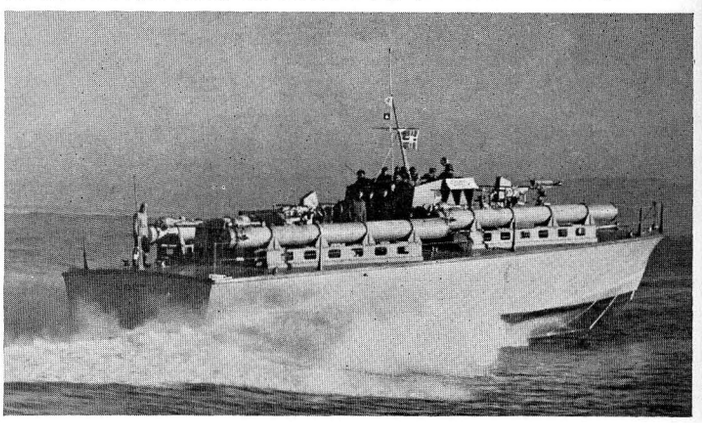
NASTY (new construction) *Added* 1959, *Boat Services Ltd.*

12 New Construction

FALK
HAUK
HVASS
JO
LOM
RAVN
SKARV
SKREI
STEGG
TIEST
TJELD

Displacement:	68 tons *standard*
Dimensions:	78¾ (*w.l.*), 80½ (*o.a.*)×24×6 feet
Guns:	2—40 mm. AA.
Tubes:	4—21 inch
Machinery:	Napier Deltic diesel motors. 2 shafts. B.H.P.: 6,200=40 to 42 kts.

Notes
Twelve fast patrol boats of the " Nasty " class have been ordered by the Royal Norwegian Navy. They will all be built and supplied by A/S Westermoen Batbyggeri og Mek. Verksted, Mandal, over a 4-year period. The first of these, *Tjeld*, was launched on 10 Aug. 1959.



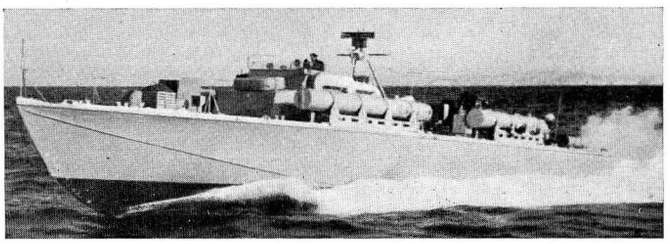
NASTY 1958, *courtesy Boat Services Ltd. A/S. Builders*

1 " Nasty " Type

NASTY

Displacement:	69 tons *standard* (74 tons *full load*)
Dimensions:	80½ (*o.a.*)×25½×6½ feet
Guns:	2—40 mm. A.A. Bofors
Tubes:	4—21 inch
Machinery:	2 Napier Turbo blown Deltic diesels. B.H.P.: 6,200=45 kts.
Complement:	22

Notes
A new type of motor torpedo boat developed and built as an experimental and entirely private venture by a Norwegian company, Boat Services, Ltd., A/S, but expected to be taken over, after trials, by the Royal Norwegian Navy, as a fast patrol boat. Constructed of mahogany, with keel and deck of ash. Engines, spares and stores were supplied from Great Britain.



RAPP 1955, *R.No.N Official*

6 " Rapp " Class

KJAPP P 354
KVIKK P 353
RAPP P 351
RASK P 352
SNAR P 355
SNÖGG P 356

Displacement:	72 tons *standard*
Dimensions:	87×23×5 feet
Guns:	1—40 mm., 1—20 mm. AA.
Tubes:	4—21 inch
Machinery:	4 Packard petrol engines. 2 shafts. B.H.P.: 4,800=32 kts. (sea), 41 kts. (*max.*)
Complement:	18

Notes
All built by A. S. Westermoens Batbyggeri, Mandal. Of wooden hull construction. *Rapp*, the prototype, was laid down in Aug. 1951, launched on 7 May 1952 and completed on 18 Nov. 1952. Five others of the same type were laid down, launched and completed between 1953 and 1956. Pennant Nos. above.

Motor Torpedo Boats—*continued*



SILD 1956, *R.No.N., Official*

9 Ex-U.S. PT Type

DELFIN (*ex-Hvass*) P 959
HAI P 956
HVAL P 958
KNURR (*ex-Snögg*) P 954
LAKS (*ex-Hauk*) P 957
LYR (*ex-Snar*) P 953
SEL P 950
SILD P 951
SPRINGER P 955

Displacement:	45 tons *standard* (55 tons *full load*)
Dimensions:	80×24×5¼ feet
Guns:	1—40 mm., 1—20 mm., 4—12·7 mm.
Tubes:	2—21 inch
Machinery:	3 Packard petrol engines. 3 shafts. B.H.P.: 4,500=43 kts.
Complement:	15

Notes

Built in U.S.A. in 1945. All received from U.S.A. in 1951 under MDAP Programme. All Elco boats. Ex-PT 602-606, 608-610, 612. *Hvass*, *Snogg*, *Hauk* and *Snar* were renamed *Delfin*, *Knurr*, *Laks* and *Lyr*, respectively, on 15 July 1955. Pennant Nos. above.

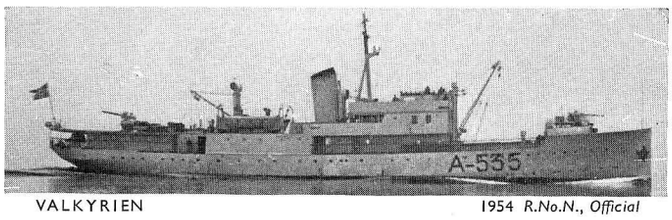
Recent Disposals

The ex-U.S. PT type FPB *Skrei*, P 952, has been scrapped, it was officially stated in 1960, and three more of this class will be removed from the list in 1960.

The seven remaining motor torpedo boats of the ex-British Fairmile "D" Type, *Falk* (ex-*MTB* 701), *Lom* (ex-*MTB* 719), *Ravn* (ex-*MTB* 720), *Skarv* (ex-*MTB* 721), *Stegg* (ex-*MTB* 722), *Teist* (ex-*MTB* 723) and *Tjeld* (ex-*MTB* 716), were stricken from the Navy List in 1959. Their sister boat, *Jo* (ex-*MTB* 713), was scrapped in 1958.

The three motor launches of the ex-American SC type, former United States submarine chasers, *Hessa* (ex-*SC* 683), *Hitra* (ex-*SC* 718) and *Vigra* (ex-*SC* 1061), were officially stricken from the Norwegian Navy List in 1959.

DEPOT SHIPS



VALKYRIEN 1954 *R.No.N., Official*

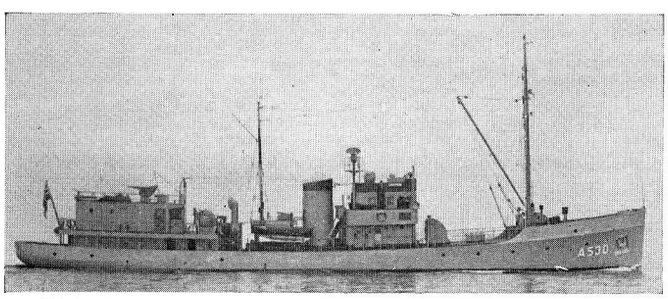
1 Ex-Freighter Type (for Motor Torpedo Boats)

VALKYRIEN

Displacement:	*ca* 1,500 tons *standard* (official estimate)
Measurement:	1,069 tons *gross*
Dimensions:	221½ (*o.a.*)×31¾×16½ feet
Guns:	1—3 inch, 3—40 mm. AA.
Machinery:	Triple expansion. 1 shaft. Oil burning. I.H.P.: 1,215= 12 kts.
Oil fuel:	93 tons
Complement:	77

Notes

Built by Burmeister & Wain, Copenhagen. Laid down in 1911. Launched on 10 Jan. 1912. Formerly a regular coastal passenger, mail and freight carrier for a commercial line. Acquired by the Royal Norwegian Navy and converted into a Depot Ship for Motor Torpedo Boats in 1952-53 by Berger Mek. Verksted. Pennant No. A 535.



SARPEN 1956, *Royal Norwegian Navy, Official*

1 Ex-German Type (for Submarines)

SARPEN (ex-German *Königsau*)

Displacement:	512 tons *standard* (591 tons *full load*) revised official estimate
Measurement:	372·8 tons *gross*
Dimensions:	156×25½×10 feet
Guns:	3—20 mm. AA.
Machinery:	2 Krupp diesels B.H.P.: 2,100=16 kts.
Oil fuel:	33 tons
Complement:	42

Notes

Former German tender. Handed over on 19 Apr. 1947. Depot ship for submarines. Pennant No. is now A 530.

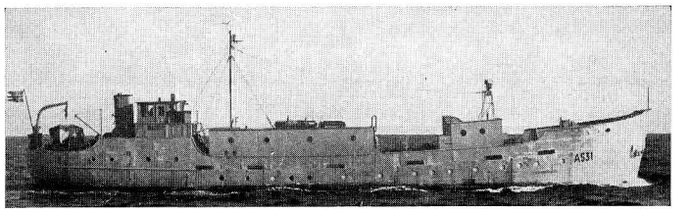
ICEBREAKER

1 Projected

Notes

A new naval icebreaker is planned under the new construction programme, but she is not being proceeded with for the time being.

ASDIC TRAINING SHIP



PINGVIN 1955, *R.No.N., Official*

1 Ex-German Type

PINGVIN (*ex-Draug*, ex-German *Pommern*)

Displacement:	201 tons
Dimensions:	115×21×7 feet
Machinery:	1 Deutsche Werke. I.H.P.: 200
Complement:	14

Notes

Former German ship. Renamed *Pingvin* on 1 Jan. 1956 when her former name *Draug* was selected for one of the frigates taken over from Canada. Pennant No. A 531.

Recent Disposals

The battle damage repair ship of the converted American tank landing ship type, *Ellida* (ex-U.S.S. *ARB* 13, ex-U.S.S. *LST* 50), was returned to the U.S. Navy on 1 July 1960.

The fishery protection vessels *Nordkapp* and *Senja* were stricken from the Navy List in 1956 and sold for use as fishing vessels.

CONTROLLED MINELAYERS

Coastal Artillery Type

BORGEN

Displacement:	282 tons *standard*
Dimensions:	94½ (*pp.*), 102½ (*o.a.*)×26½×11 feet
Machinery:	2 General Motors diesels. 2 Vogt-Schneider propellers. B.H.P.: 330=9 kts.

Notes

Borgen was launched on 29 Apr. 1960. Norway also has one old coastal artillery minelayer for controlled mines. These are part of the Navy.

LANDING CRAFT

1 Ex-U.S. LCU Type

LCU 1478

Displacement:	200 tons *light* (360 tons *full load*)
Dimensions:	115½ (*w.l.*), 119 (*o.a.*)×35×6 feet
Guns:	2—20 mm. AA.
Machinery:	3 diesels. 3 shafts. B.H.P.: 675=12 kts.

Notes

Formerly a United States utility landing craft of the post-war LCU type. Completed in 1953. Transferred from the United States to the Royal Norwegian Navy under the Mutual Defense Assistance Program. She was to have been converted into a minelayer for special mine warfare duties, it was officially stated, but this plan has been abandoned.

OCEAN SURVEY SHIP

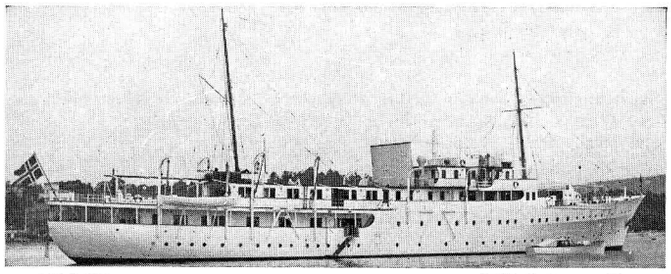
New Construction

Dimensions:	125½ (*o.a.*), 111½ (*pp.*)×25×13 feet
Machinery:	Diesel engine, Norwegian type. B.H.P.: 600=11 kts.

Notes

Ocean survey ship to be constructed for the Norwegian Defence Research Institute with United States financing (announced 22 Apr. 1959). The above are preliminary details officially furnished in Aug. 1959 by the Royal Norwegian Navy. Builders: Örens mek. Verksted, Trondheim, Norway. Official specifications include: "Steel hull, solid welded, blunt nose, cruiser stern."

ROYAL YACHT



NORGE 1954, *C. Parsons, Esq.*

1 Ex-British Escort Type

NORGE (*ex-Philante*)

Measurement:	1,686 tons (*Thames* yacht measurement)
Dimensions:	250¼ (*pp.*), 263 (*o.a.*)×28×15¼ feet
Machinery:	8-cyl. diesels. 2 shafts. B.H.P.: 3,000=17 kts.

Notes

Built by Camper & Nicholson's Ltd., Gosport, England. Launched on 17 Feb. 1937. Constructed to the order of Mr. T. O. M. Sopwith to act as escort and store vessel for the yachts *Endeavour I* and *Endeavour II*. Served in the British Navy as an anti-submarine escort vessel during the Second World War, after which she was purchased by the Norwegian people for King Haakon at a cost of nearly £250,000 and reconditioned as a Royal Yacht at Southampton. Can accommodate about 50 people in addition to the crew. Pennant No. A 533.

PANAMA

Base

Under the 1955 Treaty United States forces occupied the base at Rio Hato.

Mercantile Marine

Lloyd's Register of Shipping: 639 ships of 4,582,539 tons *gross*

COAST GUARD PATROL VESSELS

2 U.S. Type

Displacement:	35 tons
Dimensions:	69 × 14 × 5 feet
Guns:	1 M.G.
Machinery:	H.P.: 400 = 13 kts.
Complement:	10

Notes

Two small craft (replacing *YP* 162, 539, formerly on loan) purchased from the U.S. Government in 1947.

TUG

Notes

There is a Navy fire-fighting tug. One or two U.S. service boats are also reported

New Acquisitions

It is reported that the Republic of Panama is to negotiate the purchase of warships. It is reported, but not officially confirmed, that the Panamanian Foreign Office will make an offer for warships from the New Zealand Government.

PARAGUAY

Administration

In Command of the Navy:
Capitan de Navio Don Benito Pereira Saguier.

Personnel

1960: 1,900 officers and ratings.

RIVER GUNBOATS (*Canoneros*)



PARAGUAY — *Added 1957, Official*

2 "Humaita" Class

HUMAITA (ex-*Capitan Cabral*) **PARAGUAY** (ex-*Comodor Meya*)

Displacement:	636 tons *standard* (865 tons *full load*)
Dimensions:	231 × 35 × 5½ feet
Guns:	4—4·7 inch, 4—3 inch AA., 2 M.G.
Mines:	6
Armour:	½″ side amidships, ½″ deck, ¾″ C.T.
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 3,800 = 17 kts.
Boilers:	2
Oil fuel:	150 tons
Radius:	1,700 miles at 16 kts.
Complement:	86

Notes

Rated as gunboats but also fitted for minelaying. The armour is of high tensile steel.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
C 2	*Humaita*	Odero, Genoa	Apr. 1929	1930	May 1931
C 1	*Paraguay*	Odero, Genoa	Apr. 1929	1930	May 1931

PATROL LAUNCHES (*Launchas Patrulleras*)

6 Ex-U.S.C.G.C. Type

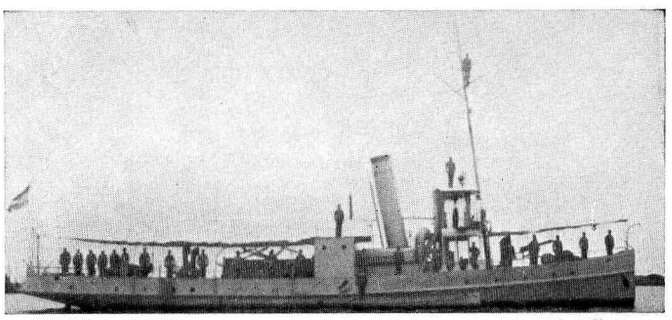
P 1 **P 2** **P 3** **P 4** **P 5** **P 6**

Displacement:	16 tons
Dimensions:	45½ (*o.a.*) × 13½ × 3½ feet
Guns:	2—20 mm. AA.
Machinery:	2 petrol motors. 2 shafts. H.P.: 190 = 20 kts.
Complement:	10

Notes

Of wooden construction. Built in the U.S.A. in 1944. Acquired from the U.S. Coast Guard in 1944. Ex-U.S.C.G.C. 20417, 20418 ,20419, 20421, 21422, 20423.

RIVER PATROL BOATS (*Avisos de Guerra*)



CAPITAN CABRAL — 1954 *Officia*

1 Tug Type

CAPITAN CABRAL (ex-*Adolfo Riquelme*)

Displacement:	180 tons *standard* (206 tons *full load*)
Dimensions:	98¼ (*pp.*), 107¼ (*o.a.*) × 23½ × 9¾ feet
Guns:	1—3 inch Vickers, 2—37 mm. Vickers, 4 M.G.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 300 = 9 kts.
Complement:	47

Notes

Former tug. Built by Werf-Conrad, Haarlem. Launched in 1907. Of wooden construction. Pennant No.: A 1.

CORONEL MARTINEZ

Displacement:	80 tons
Dimensions:	71¼ × 18 × 8¼ feet
Guns:	1—3 inch, 2—37 mm.
Machinery:	I.H.P.: 150 = 6·5 kts.

Notes

Medium type river patrol boat and general utility craft. Pennant No.: A 2.

TENIENTE HERREROS

Displacement:	41 tons
Dimensions:	63¼ × 11 × 6¾ feet
Guns:	4 M.G.
Machinery:	I.H.P.: 300 = 5·5 kts.

Notes

Small type river patrol boat. Built in the Netherlands in 1908. Pennant No.: A 3.

PERU

Administration

Minister of Marine:
Vice-Admiral Guillermo Tirado Lamb.
Chief of Naval Operations (Commandante General de Marina):
Rear-Admiral Juan F. Torres Matos.
Commander-in-Chief of the Fleet (Commandante General de la Escuadra):
Rear-Admiral Miguel Chovez Goytizolà.
Chief of the General Staff of the Navy (Jefe del Estado Mayor General de Marina):
Rear-Admiral Carlos Monge Gordillo.

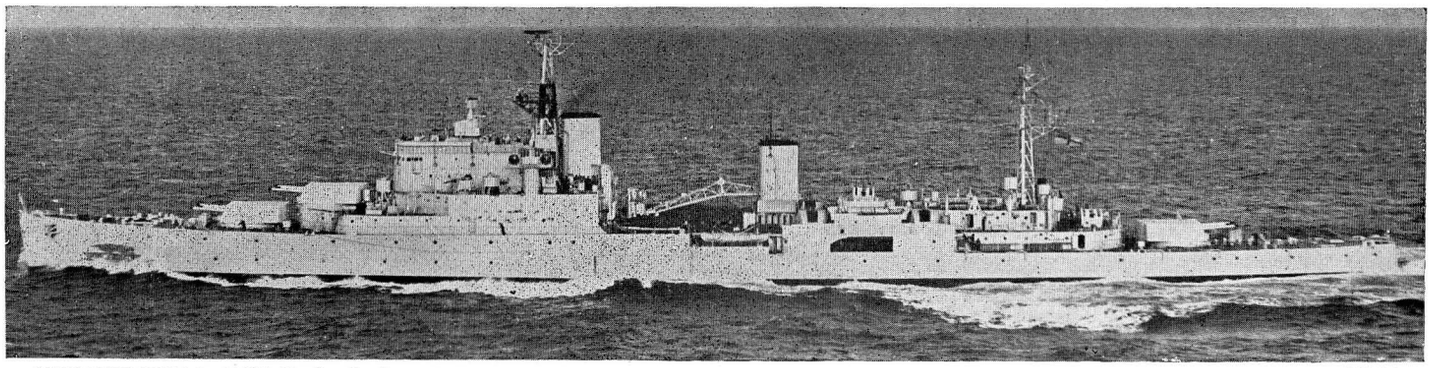
Personnel

1960: 6,250 (550 officers, 5,700 men)

Mercantile Marine

Lloyd's Register of Shipping:
55 vessels of 21,084 tons *gross*

CRUISERS



ALMIRANTE GRAU (ex-H.M.S. *Newfoundland*) *Official*

2 " Almirante Grau " Class
Ex-British " Ceylon " Class

ALMIRANTE GRAU (ex-H.M.S. *Newfoundland*)
CORONEL BOLOGNESI (ex-H.M.S. *Ceylon*)

Name:	*Almirante Grau*	*Coronel Bolognesi*
Pennant No.:	81	82
Builders:	Swan, Hunter & Wigham Richardson, Ltd., Wallsend - on - Tyne	Alexander Stephen & Sons, Ltd., Govan, Glasgow
Engineers:	The Wallsend Slipway & Engineering Co. Ltd., Wallsend - on - Tyne	Alexander Stephen & Sons, Ltd., Govan, Glasgow
Laid down:	9 Nov. 1939	27 Apr. 1939
Launched:	19 Dec. 1941	30 July 1942
Completed:	13 July 1943	31 Dec. 1942

Displacement:	*Coronel Bolognesi*: 8,781 tons *standard* (11,110 tons *full load*) *Almirante Grau*: 8,800 tons *standard* (11,090 tons *full load*)
Dimensions:	Length: 549 (*w.l.*), 555½ (*o.a.*) feet. Beam: 62 feet. Draught: 16 ½ (*mean*), 20½ (*max.*) feet
Guns:	9—6 inch, 8—4 inch AA., 12—40 mm. AA. (*Coronel Bolognesi* 18—40 mm.)
Tubes:	Removed
Armour:	4" side, 4" C.T., 2" turrets, 2" deck
Machinery	Parsons single-reduction geared turbines. 4 shafts. S.H.P.: 72,500= 31·5 kts.
Boilers:	4 Admiralty 3-drum type
Oil fuel:	1,620 tons
Radius:	6,000 miles at 13 kts.
Complement:	*Coronel Bolognesi*, 766, *Almirante Grau*, 808 (peace); 950 (war)

General Notes
Built under the 1938 and 1939 British Navy Estimates, respectively, and ordered in 1939. The designed displacement was 8,000 tons. These ships are a modification of original *Fiji* design, one 6-inch turret having been suppressed, and the number of light AA. guns augmented. *Almirante Grau* (ex-*Newfoundland*) was reconstructed in 1951-53 at H.M. Dockyard, Devonport, with two lattice masts, new bridge and improved AA. armament; her torpedo tubes being removed.

Coronel Bolognesi (ex-*Ceylon*) was refitted with lattice foremast and covered modified bridge in 1955-56, and her torpedo tubes were removed.

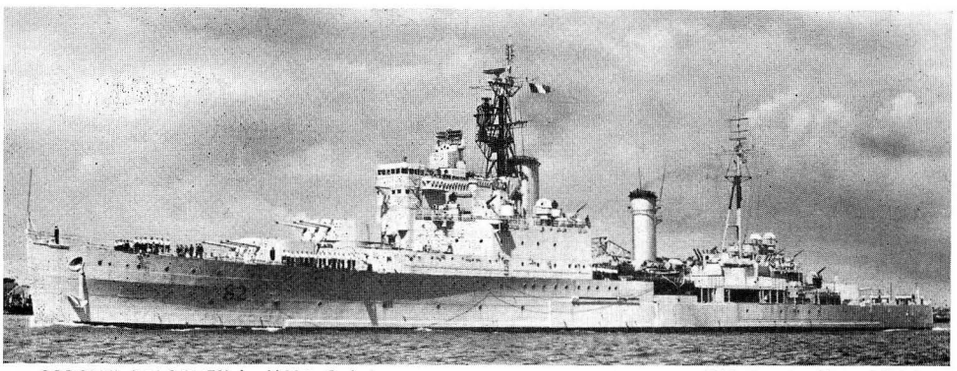
Transfer Notes
The *Newfoundland* (incorporated in the Peruvian Navy on 19 Dec. 1959) was formally transferred from the British Navy at Portsmouth on 30 Dec. 1959 and renamed *Almirante Grau*, and the *Ceylon* was transferred from the British Navy at Portsmouth on 9 Feb. 1960 and renamed *Coronel Bolognesi*.

Gunnery Notes
The 4 inch guns of *Coronel Bolognesi* (ex-Ceylon) are radar-controlled.

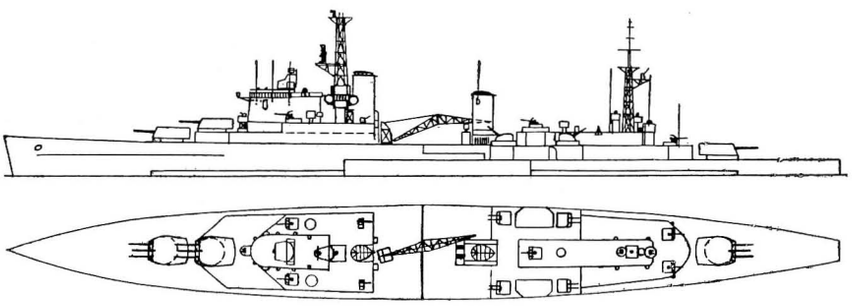
Torpedo Notes
These ships originally mounted 6—21 inch torpedo tubes.

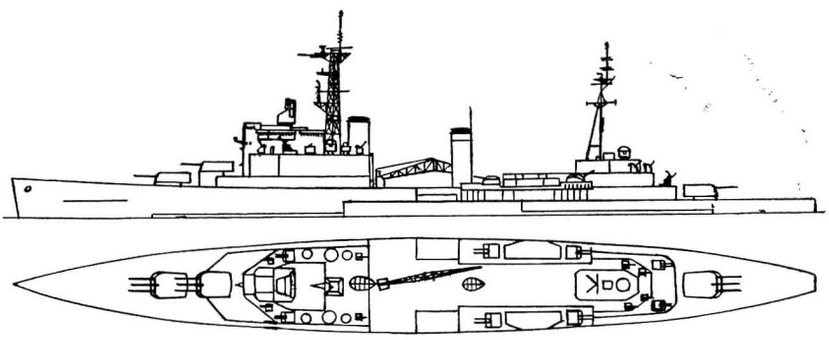
Appearance Notes
As compared with " Mauritius " class, *Coronel Bolognesi* (ex-*Ceylon*) had oval instead of rounded bridge, high-angle director abreast foremast instead of further forward abreast D.C.T. *Almirante Grau* (ex-*Newfoundland*) has new H.A. director mounted on either side of bridge, the same type as in later " C " class and " Battle " class destroyers. *Coronel Bolognesi* (ex-*Ceylon* was refitted with a lattice foremast and a tripod mainmast, whereas *Newfoundland* was reconstructed with two lattice masts.

Recent Disposals
The very old light cruisers *Almirante Grau* and *Coronel Bolognesi*, built in 1905-1907, and latterly used as depot ships for administrative and training purposes, were removed from the Navy List on 24 June 1958. It is reported that they were traded to the Korody Marine Corporation, Hawthorne, California, U.S.A., for new, but much smaller naval craft.



CORONEL BOLOGNESI (ex-H.M.S. *Ceylon*) 1960, *Peruvian Navy, Official*





Notes to Upper Drawing
Port elevation and plan of *Almirante Grau* (ex-*Newfoundland*). Scale: 128 feet=1 inch.

Class Notes
Uganda of this class was given to the Royal Canadian Navy by the British Government in 1944 and renamed *Quebec* in 1951 (she has since been disposed of).

Notes to Lower Drawing
Port elevation and plan of *Coronel Bolognesi* (ex-*Ceylon*). Scale: 128 feet=1 inch.

Photograph Notes
A starboard quarter view of *Ceylon* and a port bow view of *Newfoundland* appear in the 1957-58 (Diamond Jubilee) edition.

DESTROYER

1 Ex-U.S. "Fletcher" Class

Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39⅛ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	5—5 inch, 38 cal. d.p., 6—40 mm. Bofors, 10—20 mm. Oerlikon
Tubes:	5—21 inch (quintupled)
A/S weapons:	2 fixed Hedgehogs, 1 D.C. rack 2 sidelaunching torpedo racks
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (peace), 350 (war)

General Notes

It is officially stated that the United States will be handing over to Peru one destroyer of the "Fletcher" class at the end of the year.

DESTROYER ESCORTS

3 "Castilla" Class

Ex-U.S. "Bostwick" Class

AGUIRRE (ex-U.S.S. *Waterman, DE* 740)

CASTILLA (ex-U.S.S. *Bangust, DE* 739)

RODRIGUEZ (ex-U.S.S. *Weaver, DE* 741)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	300 (*pp.*), 306 (*o.a.*) × 36⅝ × 12 (*max.*) feet
Guns:	3—3 inch, 50 cal., d.p., 6—40 mm. AA. (in three twin mountings), 10—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
A/S weapons:	1 Mark X Ahead Throwing weapon; 8 K-guns; 2 Depth Charge racks aft
Machinery:	4 Diesel-electric sets coupled to 2 shafts. B.H.P.: 6,000=20 kts.
Oil fuel:	322 tons
Radius:	10,500 miles at 12 kts.
Complement:	220

General Notes

Formerly United States Destroyer Escorts, DE, of the "Bostwick" class. All built by the Western Pipe & Steel Co., San Pedro, California, in 1943. Transferred to Peru on 26 Oct. 1951, under the Mutual Defense Assistance Program. Reconditioned and modernised at Green Cove Springs and Jacksonville, Flor. Actually arrived in Peru on 24 May 1952. Given "DE" instead of "D" pennant numbers in 1959. Pennant numbers were changed from 2, 1 and 3 to 62, 61 and 63, respectively, in 1960.

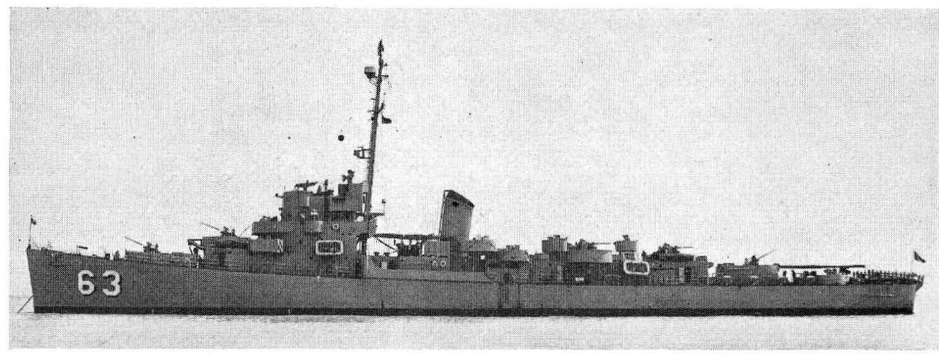
Torpedo Notes

The original three 21 inch torpedo tubes in triple mounting were removed.

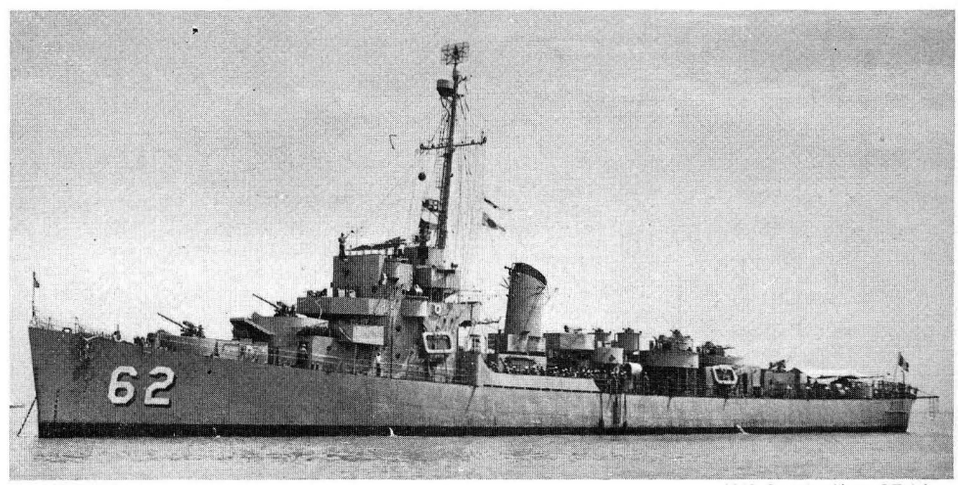
Photograph Notes

A starboard quarter oblique aerial view of *Castilla* appears in the 1953-54 to 1959-60 editions.

Pennant No.	*Name*	*Launched*	*Completed*
62	*Aguirre*	4 July 1943	31 Dec. 1943
61	*Castilla*	6 June 1943	30 Oct. 1943
63	*Rodriguez*	20 June 1943	30 Nov. 1943



RODRIGUEZ — 1960, *Peruvian Navy, Official*



AGUIRRE — 1960, *Peruvian Navy, Official*

FRIGATES

2 "Palacios" Class

Ex-Canadian "River" Class

FERRÉ (ex-H.M.C.S. *Poundmaker*)

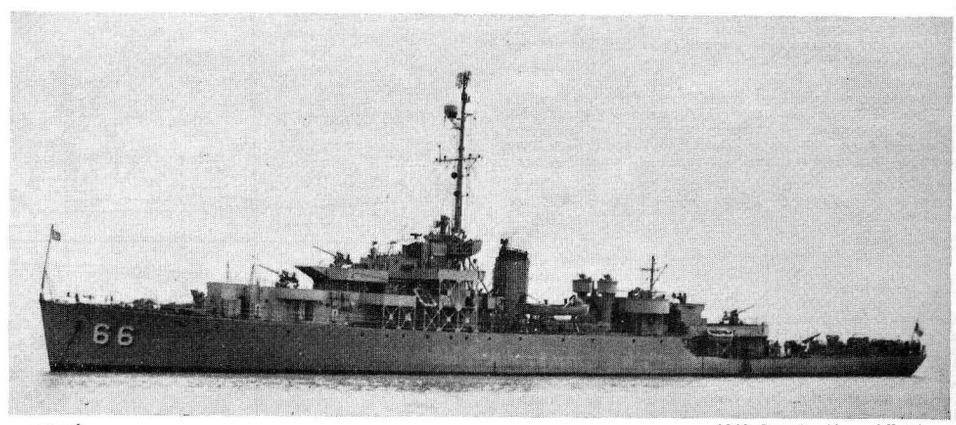
PALACIOS (ex-H.M.C.S. *St Perre*)

	Ferré	*Palacios*
Name:		
Pennant No.:	66	65
Builders:	Canadian Vickers Ltd., Montreal	Quebec Shipbuilding Co., Lauzon, P.Q.
Launched:	21 Apr. 1944	1 Dec. 1943
Completed:	17 Sep. 1944	22 Aug. 1944

Displacement:	1,445 tons *standard* (2,360 tons *full load*)
Dimensions:	301½ × 36½ × 12 feet
Guns:	3—3 inch d.p., 4—40 mm. AA. (in two twin mounts), 5—20 mm. AA.
A/S weapons:	1 Mk. 10 Ahead Throwing Weapon; 6 K-guns; 2 depth charge racks aft
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2, of 3-drum type
Oil fuel:	646 tons
Radius:	9,600 miles at 12 kts.
Complement:	140

General Notes

Formerly Canadian frigates of the "River" class. Purchased in 1947. Modernized with new guns and fire control equipment at New York Naval Shipyard in 1952.



FERRÉ — 1960, *Peruvian Navy, Official*

Nomenclature Notes

Formerly known as *Teneinte Ferre* and *Teniente Pelacios*, respectively. Given "FE" instead of "F" pennant numbers in 1959. Pennant numbers were changed from 3 and 2 to 66 and 65, respectively, in 1960.

Photograph Notes

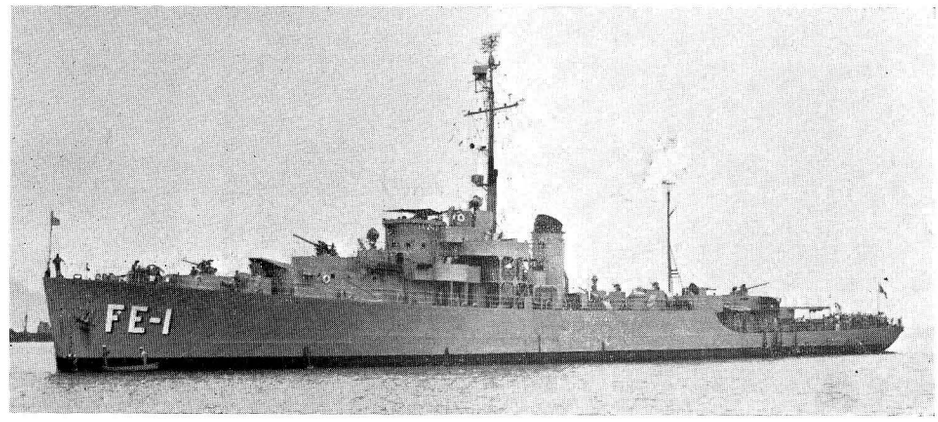
A starboard bow view of *Palacios* appears in the 1953-54 to 1958-59 editions, and a starboard quarter view of *Ferré* appears in the 1957-58 to 1959-60 editions.

Frigates—*continued*

1 "Galvez" Class
Ex-U.S. "Tacoma" Class

GÁLVEZ (ex-U.S.S. *Woonsocket*, *PF* 32)

Pennant No.:	64
Builders	Walter Butler, Superior, Wis.
Laid down:	12 Aug. 1943
Launched:	27 Sep. 1943
Completed:	27 July 1944
Displacement:	1,430 tons *standard* (2,415 tons *full load*)
Dimensions:	285½ (*w.l.*), 304 (*o.a.*) × 37½ × 13⅔ feet
Guns:	3—3 inch, 50 cal., 4—40 mm. AA. (in two twin mounts), 4—20 mm. AA., 2 M.G. AA.
A/S weapons:	1 Mk. 10 Ahead throwing weapon; 6 K-guns; 2 depth charge racks aft.:
Machinery:	Triple expansion. 2 shafts. 1 H.P 5,500=19 kts.
Boilers:	2, of 3-drum type
Oil fuel:	748 tons
Radius:	10,000 miles at 12 kts.
Complement:	140



GALVEZ — 1959, *Peruvian Navy, Official*

General Notes
Formerly a United States patrol frigate, PF, of the "River" type. Purchased in 1948. Overhauled at Norfolk (Va.) Navy Yard in 1952.

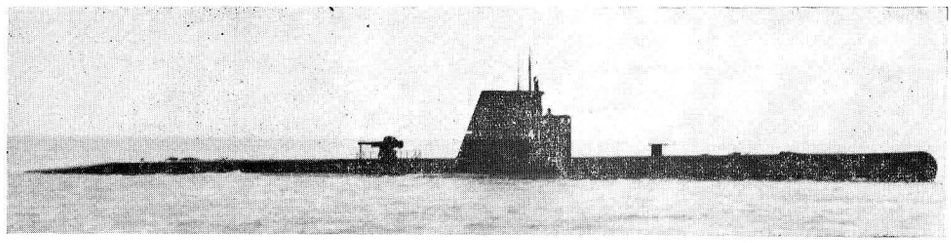
Nomenclature Notes
Formerly known as *Teniente Galvez*. Given an "FE" instead of an "F" pennant number in 1959. Pennant number changed from 1 to 64 in 1960.

SUBMARINES

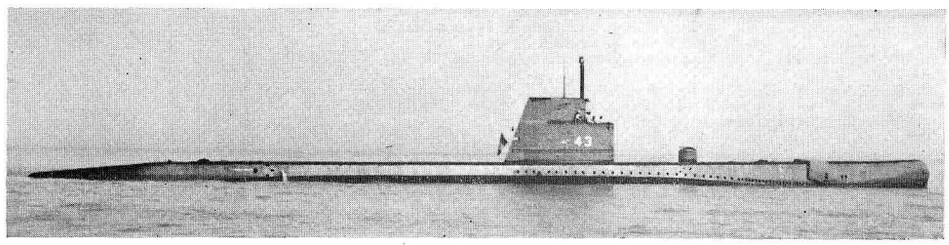
4 "Abtao" Class
(U.S. Type)

ABTAO (ex-*Tiburon*) — **DOS DE MAYO** (ex-*Lobo*)
ANGAMOS (ex-*Atun*) — **IQUIQUE** (ex-*Merlin*)

Displacement:	825 tons *standard*, 1,400 tons *submerged*
Dimensions:	243 (*o.a.*) × 22 (*max.*) × 14 (*max.*) feet
Guns:	1—5 inch, 25 cal. (*Abtao* and *2 de Mayo*)
Torpedo tubes:	4—21 inch (bow), 2—21 inch (aft)
Machinery:	2 General Motors Corporation single acting, two-cycle, non-reversible, type 278A. diesels. 2 shafts. B.H.P.: 2,400 (total)=16 kts. *surface* (*max.*) Electric motors=10 kts. *submerged*
Oil fuel:	45 tons
Radius:	5,000 miles at 10 kts.
Complement:	40



2 DE MAYO — 1960, *Peruvian Navy, Official*



ANGAMOS — 1960, *Peruvian Navy, Official*

General Notes
All built by the Electric Boat Division of the General Dynamics Corp., Groton, Connecticut. They are of modified U.S. "Mackerel" class.

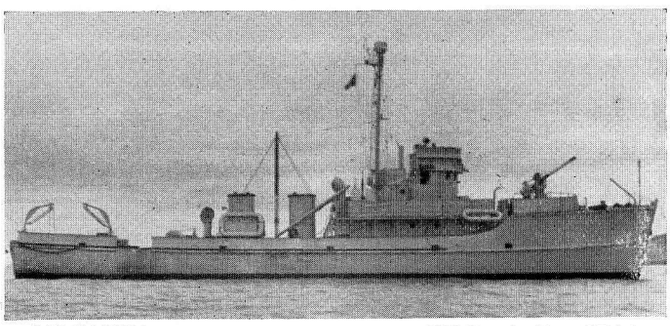
Nomenclature Notes
Lobo means wolf, *Tiburon* means shark. The names of all Peruvian submarines were changed in Apr. 1957 by a supreme decree of the President of the Republic of Peru. The names now used are in honour of famous Peruvian naval battles. Pennant numbers were changed from 5, 7, 6 and 8 to *SS* 2, *SS* 3, *SS* 1 and *SS* 4, respectively, in 1959, and were again changed to 42, 43, 41 and 44, respectively, in 1960.

Photograph Notes
A photograph of *Abtao* appears in the 1954-55 to 1959-60 editions, and a photograph of all four submarines of this class together in the 1959-60 edition.

No.	*Name*	*Laid down*	*Launched*	*Completed*
42	*Abtao*	12 May 1952	27 Oct. 1953	20 Feb. 1954
43	*Angamos*	27 Oct. 1955	5 Feb. 1957	1 July 1957
41	*2 de Mayo*	12 May 1952	6 Feb. 1954	14 June 1954
44	*Iquique*	27 Oct. 1955	5 Feb. 1957	1 Oct. 1957

Recent Disposals
The four old submarines of the "R" class, *Arica* (ex-*R* 4), *Casma* (ex-*R* 2), *Islay* (ex-*R* 1) and *Pacocha* (ex-*R* 3), (see full particulars and photographs in the 1959-60 and earlier editions), were officially deleted from the list in 1960, and scrapped.

COASTAL MINESWEEPERS



SAN MARTIN — 1958, *Peruvian Navy, Official*

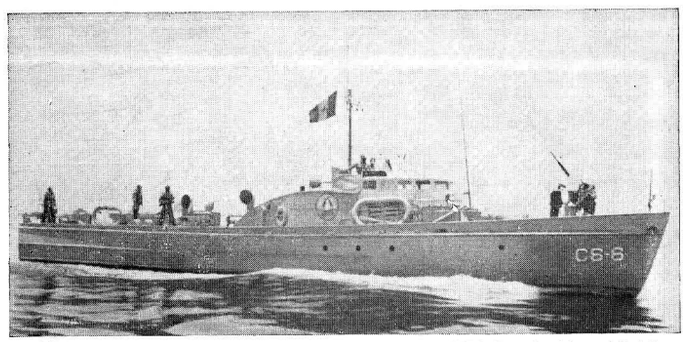
2 "Bondy" Class. Ex-U.S. YMS Type

BONDY (ex-*YMS* 25) — **SAN MARTIN** (ex-*YMS* 35)

Displacement:	300 tons *standard* (325 tons *full load*)
Dimensions:	136 × 24½ × 6 feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	2 General Motors diesels. B.H.P.: 1,000=15 kts. (*max.*), economical speed 11 kts.
Fuel:	20 tons
Radius:	1,600 miles at 8 kts.
Complement:	30

Notes
Former American motor minesweepers of the YMS type. Of wooden construction. *Bondy* was built by Greenport Basin & Construction Co., Long Island, N.Y., and launched on 28 Jan. 1943. *San Martin* was built by C. Hiltebrandt Drydock Co., Kingston, N.Y., and acquired from the U.S.A. in 1947. Formerly known as *Alferez de Fragata Bondy* and *Guardiamarina San Martin*, respectively.

COAST GUARD MOTOR LAUNCHES



CS 6 — 1951, *Peruvian Navy, Official*

4 Ex-U.S. Coast Guard Type

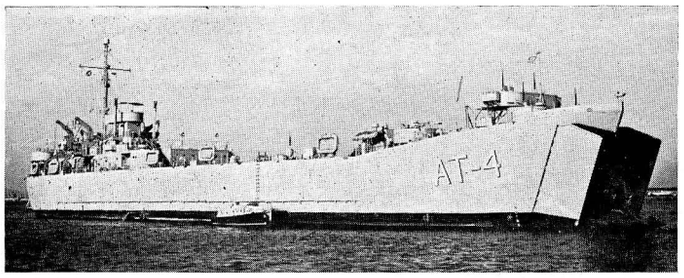
CS 3 — **CS 4** — **CS 5** — **CS 6**

Displacement:	45 tons
Dimensions:	83 × 16 × 4½ feet
Guns:	1—20 mm. AA., 2 M.G.
Machinery:	2 petrol motors. H.P.: 1,200=20 kts. (now less)
Complement:	10

Notes
Built in New York in 1943. Of wooden construction. All transferred from the U.S. Coast Guard in 1943-44. Ex-U.S.C.G. 83495, 83496, 83315, 83328.

Recent Disposals
Sister boats *CS* 1 and *CS* 2 were disposed of on 29 May 1958 and 29 May 1959, respectively.

TANK LANDING SHIPS



PAITA 1959, *Peruvian Navy, Official*

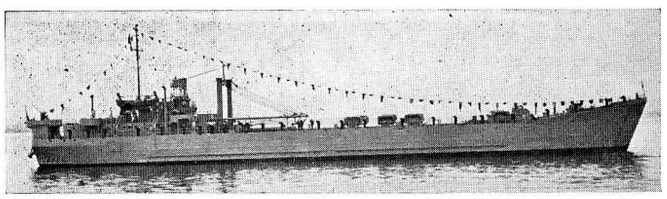
2 "Paita" Class
Ex-U.S. LST Type

PAITA (ex-U.S.S. *Burnett County*, *LST* 512)

Displacement:	1,653 tons *standard*, 2,366 tons *beaching*, 3,960 tons *trials* 4,080 tons *full load*
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11⅛ (*mean*), 14½ (*max.*) feet
Guns:	6—40 mm. AA.; 6—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700=11·6 kts. (trials), 10 kts. sea speed
Complement:	13 officers, 106 men

Notes

Former American LST of the 511-1152 Series. Built by Chicago Bridge & Iron Co., Seneca, Illinois. Laid down on 29 July 1943, launched on 3 Dec. 1943 and completed on 8 Jan. 1944. Purchased from the United States by Peru in 1957. Employed as a training ship for the Peruvian Naval Academy. Pennant No.: *AT* 4.



CHIMBOTE *Peruvian Navy, Official*

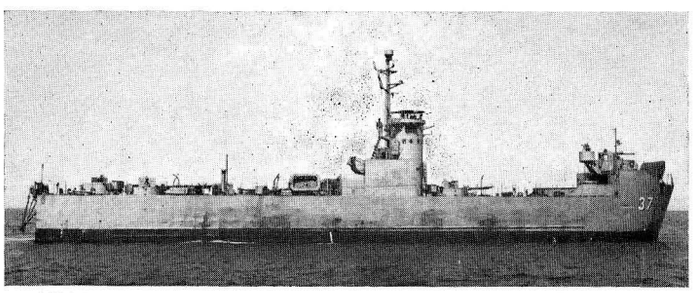
CHIMBOTE (ex-M/S *Rawhiti*, ex-U.S.S. *LST* 283)

Displacement:	1,625 tons *standard*, 4,050 tons *full load*
Dimensions:	328 (*o.a.*), 315 (*pp.*) × 50 × 14½ (*max.*) feet
Guns:	1—3 inch
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=10 kts.
Oil fuel:	600 tons (oil tanks): 1,100 tons (ballast tanks)
Radius:	24,000 miles at 9 kts.
Complement:	Accommodation for 16 officers and 130 men

Notes

Former American LST of the 1—510 series. Built by American Bridge Co., Ambridge, Pennsylvania. Laid down on 2 Aug. 1943, launched on 10 Oct. 1943 and completed on 18 Nov. 1943. Sold to Peru by a British firm in 1951.

MEDIUM LANDING SHIPS



ATICO 1960, *Peruvian Navy, Official*

2 "Lomas" Class
Ex-U.S. LSM Type

(**ATICO** (ex-U.S.S. *LSM* 554) **LOMAS** (ex-U.S.S. *LSM* 396)

Displacement:	513 tons *standard* (913 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7 feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesels. 800 r.p.m. 2 shafts. B.H.P.; 3,600=12 kts.
Oil fuel:	165 tons (oil tanks)
Complement:	Accommodation for 116 (10 officers and 106 men)

Notes

Former American medium landing ships of the LSM type. Both built by Charleston Navy Yard, Charleston, S.C., U.S.A. Sold to Peru and transferred from the United States Navy in 1959.

Pennant No.:	*Name:*	*Laid Down*	*Launched*	*Completed*
37	*Atico*	3 Mar. 1945	22 Mar. 1945	14 Sep. 1945
36	*Lomas*	13 Dec. 1944	2 Jan. 1945	23 Mar. 1945

Recent Disposals

The two landing craft of the ex-U.S. LCT type, *BT*1 and *BT* 2, were disposed of in 1958.

PATROL VESSELS

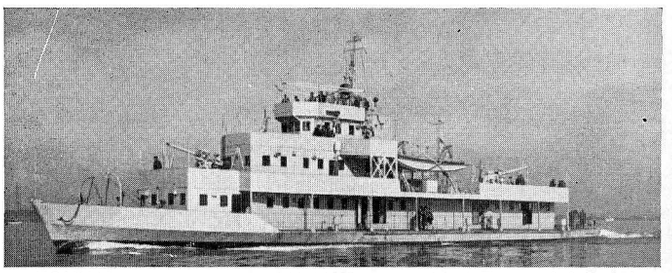
2 Ex-U.S. MSF Type

(ex-U.S.S. *Ruddy*, *MSF* 380) (ex-U.S.S. *Shoveler*, *MSF* 382)

Notes

Former American fleet minesweepers, MSF, of the large steel hulled type. Being activated at San Diego, California, for transfer from the U.S. Navy to the Peruvian Navy under the Mutual Defense Assistance Program in Nov. 1960. Minesweeping gear is being removed and sonar equipment fitted so that these vessels can be used as patrol craft and submarine chasers. For technical data see under "Auk" class in the U.S. section.

RIVER GUNBOATS



UCAYALI *Added* 1952, *courtesy John I. Thornycroft & Co. Ltd.*

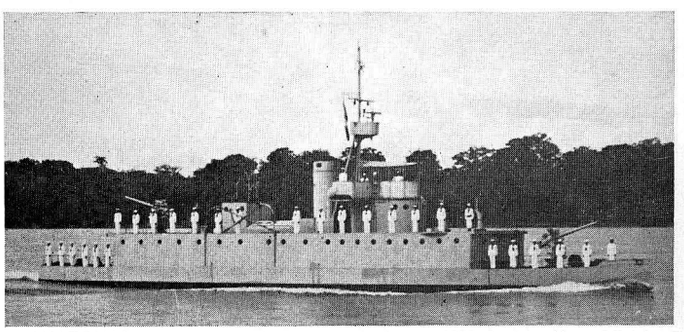
2 Thornycroft Type

MARAÑÓN	**UCAYALI**
Displacement	365 tons *full load*
Dimensions:	154¾ (*w.l.*) × 32 × 4 (*max.*) feet
Guns:	2—3 inch, 50 cal., d.p., 7—20 mm. AA. (2 twin, 3 single)
Machinery:	Two sets British Polar Diesel engines Type M441. B.H.P.: 800=12 kts. (normal)
Range:	6,000 miles without refuelling
Complement:	40

Notes

Ordered early in 1950. Employed on police duties in Upper Amazon. Specially designed for carrying naval officers and men under tropical conditions. Very shallow draught. Superstructure of aluminium alloy. Mechanical ventilation. Based on Iquitos.

Name	*Builders*	*Launched*	*Completed*
Maranon	John I. Thornycroft & Co. Ltd. Woolston, Southampton	Apr. 1951	July 1951
Ucayali		7 Mar. 1951	June 1951



AMAZONAS 1959, *Peruvian Navy, Official*

2 Electric Boat Type

AMAZONAS	**LORETO**
Displacement:	250 tons *standard*
Dimensions:	145 × 22 × 4 feet
Guns:	2—3 inch, 1—45 mm., 2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 750=15 kts.
Complement:	35

Notes

Designed and built by the Electric Boat Co., Groton, Conn. Launched in 1934. Photograph of *Loreto* appears in the 1958-59 edition.

1 Yarrow Type

NAPO

Displacement:	98 tons
Dimensions:	100 (*pp.*). 101½ (*o.a.*) × 18 × 3 feet
Guns:	3—47 mm. (3 pdr.), 2 M.G. AA
Machinery:	Triple expansion. I.H.P.: 250=12 kts.
Boilers:	Yarrow
Complement:	22

Notes

Built by Yarrow Co. Ltd., Scotstoun, Glasgow. Launched in 1920. Of steel construction. Converted from wood to oil fuel burning. In the Upper Amazon Flotilla.

1 U.S. Type

AMERICA

Displacement:	240 tons
Dimensions:	133 × 19½ × 4½ feet
Guns:	2—3 pdr., 4—12·7 mm. AA.
Machinery:	Triple expansion. I.H.P: 350=14 kts.
Complement:	26

Notes

Built in the U.S.A. Launched in 1904. Of steel construction. Converted from coal to oil fuel burning. In the Upper Amazon Flotilla.

1 French Type

IQUITOS

Displacement:	50 tons
Dimensions:	77 × 12 × 7½ feet
Guns:	2—37 mm., 2—20 mm., 2 M.G. AA.
Machinery:	Triple expansion. Speed=7 kts.

Notes

Built in France. Launched in 1875. Rebuilt in 1896. Refitted in 1936. Converted merchant vessel.

Recent Disposal

The river gunboat *Coronel Portillo* (ex-*San Pablo*) was removed from the Navy List in 1959, it is officially stated.

PATROL BOATS

4 "El Salto" Class
Italian KPL 181 Type

EL SALTO 103 **RIO TUMBES** 102
RIO PIURA 104 **RIO ZARUMILLA** 101

Displacement:	37 tons *full load*
Dimensions:	66½ × 17½ × 9 feet
Guns:	2—40 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200
Radius:	1,000 miles at 14 kts.

Notes

Built by the Korody Corp., Navaltecnica Internazionale S.p.A., Viaregio, Italy. Ordered in 1959 and delivered in May 1960.

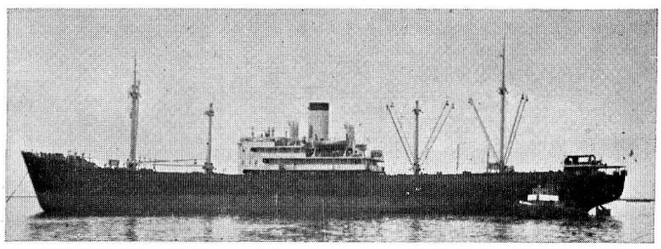
FLEET TRANSPORTS

1 Norwegian Type

ILO (ex-*Norlindo*)

Displacement:	8,385 tons *full load*
Dimensions:	338½ × 50½ × 9 feet
Machinery:	Diesels. 1 shaft. B.H.P.:1,700=10·5 kts.

Notes
Built at Sturgeon Bay, Wis., U.S.A., by Leathem D. Smith Shipbuilding Co., in 1945. Acquired by the Peruvian Navy from Benham and Boyesen Inc., Norway, in 1959.



CALLAO 1957, *Peruvian Navy, Officia*

1 German Type

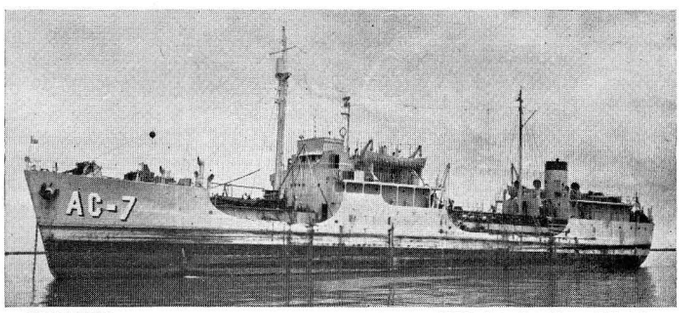
CALLAO (ex-*Monserrate*)

Displacement:	7,790 tons *full load*
Measurement:	5,578 tons *gross*
Dimensions:	459 × 56 × 22 feet (depth 35 feet)
Machinery:	2 diesel motors. Speed=14 kts.

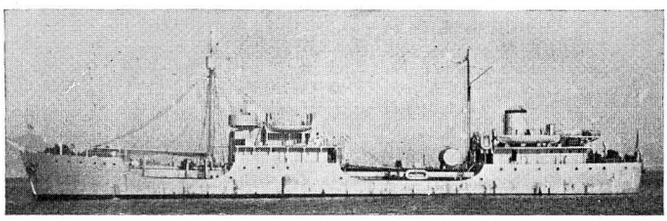
Notes
Former Hamburg America liner. Built by Bremen Vulkan Yard, Bremen-Vegesak. Launched in 1938. Seized on 1 Apr. 1941 by the Peruvian Government, after scuttling by the Germans. Employed as a troop transport and cargo carrier.

Recent Disposal
It was officially stated in July 1960 that the other fleet transport of the German type, *Rimac* (ex-*Eten*, ex-*Rhakotis*) has been scrapped.

FLEET SUPPLY SHIPS



ORGANOS 1959, *Peruvian Navy, Official*



CABO BLANCO 1957, *Peruvian Navy, Official*

2 Canadian Type

CABO BLANCO (ex-*Mariscal Castilla*, ex-*Preserver*) **ORGANOS** (ex-*Olaya*)

Displacement:	3,450 tons *standard*
Measurement:	2,436 tons *gross*
Dimensions:	269 × 43 × 18 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,150=9 kts.
Complement:	42

Notes
Cabo Blanco was built by Marine Industries, Canada, in 1941-43 and purchased from the Royal Canadian Navy in 1946. *Organos* was built by German & Milne, Canada, in 1942 and transferred to the Peruvian Navy in July 1958. Fleet supply ships and oilers.

RIVER TRANSPORTS

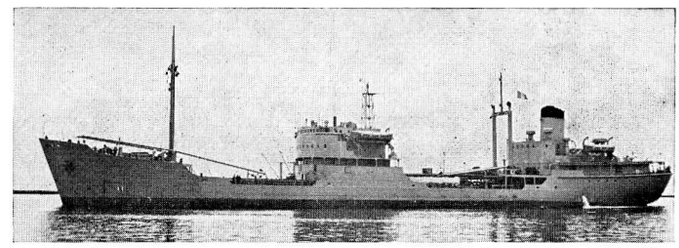
2 Gunboat Type

LA PEDRERA **ROCAFUERTE**

Displacement:	130 tons *standard* (150 tons *full load*)
Dimensions:	97 × 22 × 5¼ feet
Machinery:	2 diesels. Speed 16 kts.

Notes
Built by Yarrow & Co. Ltd., Scotstoun, in 1954. Used for transporting troops on the Amazon.

FLEET OILERS



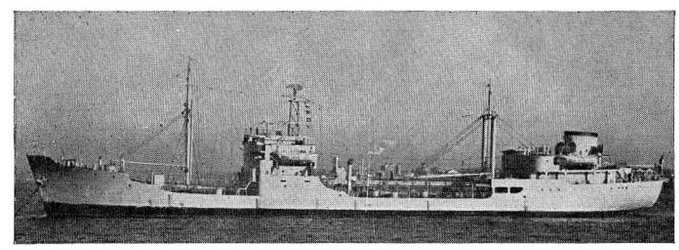
SECHURA 1956, *Peruvian Navy, Official*

2 Thornycroft Type

SECHURA **ZORRITOS**

Displacement:	8,700 tons
Measurement:	4,300 tons *gross*, 6,000 tons *deadweight*
Dimensions:	385 (*o.a.*), 360 (*w.l.*) × 52 (*breadth moulded*) × 21¼ feet (draft loaded)
Machinery:	Diesel Engine Type 562 VT-F115, made by Burmeister & Wain, Copenhagen, Denmark. B.H.P.: 2,400=12 kts. 13·25 kts. on trials
Boilers:	2 Scotch with Thornycroft oil burners for cargo tank cleaning

Notes
Sechura, built by John I. Thornycroft & Co. Ltd., Woolston, Southampton, England, was laid down late in 1952, launched on 12 Nov. 1954 and completed in Feb. 1955. Designed for transferring fuel to warships at sea. *Zorritos*, built by Servicio Industrial de la Marina in the Arsenal Naval del Callao, Peru, was laid down on 8 Oct. 1955, and launched on 8 Oct. 1958. Pennant No.: 58.



TALARA *Official*

1 Danish Type

TALARA

Displacement:	7 000 tons
Measurement:	4,800 tons *deadweight* (about 35,000 barrels)
Dimensions:	336½ × 50⅝ × 22½ feet
Machinery:	Diesel Engine Type 562, VT-F115, made by Burmeister B.H.P.: 2,400=12 kts.

Notes
Built in Denmark to the requirements of Lloyd's Register. Laid down early in 1953 by Burmeister & Wain's Maskin-Og Skibsbygger, Copenhagen. Completed in 1955.

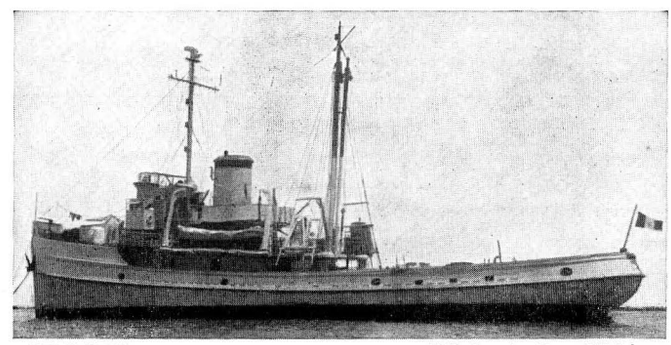
1 Thornycroft Type

PARINAS (ex-*Sjomand*)

Measurement:	2,820 tons *gross*
Dimensions:	300 × 44 × 21½ feet
Machinery:	Triple expansion. I.H.P : 1,400=10 kts.
Oil fuel:	560 tons
Cargo tanks:	4,300 tons

Notes
Built by John I. Thornycroft & Co. Ltd., Woolston, Southampton. Launched in 1921. Acquired in 1933. May be disposed of in the near future.

TUGS



SELENDON 1953, *Peruvian Navy, Official*

2 U.S. Type

SELENDON (ex-*ATR 31*) **OLAYA** (ex-*ATR 25*)

Displacement:	852 tons
Dimensions:	165½ × 33½ × 13½ feet
Machinery:	Triple expansion. I.H.P.: 1,600=12 kts.

Notes
Built in the U.S.A. in 1943-44. Purchased from the United States in 1947. Of wooden construction. Formerly known as *Condestible Selendón* and *José Olaya* respectively.

Recent Disposal
The submarine salvage vessel *Guardian Rios* was removed from the Navy List on 10 July 1958, it is officially stated.

PHILIPPINES

Administration

Flag Officer in Command, Philippine Navy: Commodore Jose Francisco, P.N.

Ships

Ships' names are prefaced by R.P.S. (Republic of Philippines Ship). Names adopted are geographical locations, mostly provinces.

First diesel-powered ships are to be constructed to Philippine Navy specifications by Australian shipbuilders under the Australian SEATO aid programme.

Personnel

1960: 4,000 officers and men.

Mercantile Marine

Lloyd's Register of Shipping: 91 vessels of 135,085 tons

DESTROYER ESCORTS

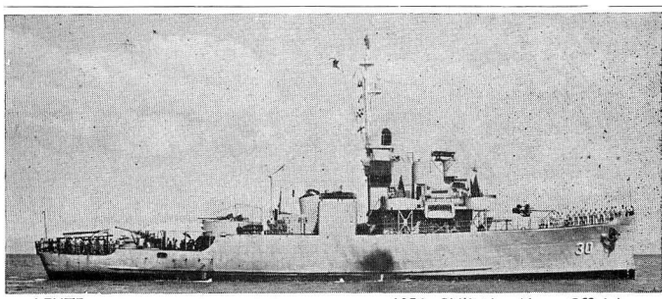
2 New Construction

Displacement:	1,850 tons *standard*
Dimensions:	364 × 36 × 12 feet
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 35,000=31 kts.
Boilers:	2
Radius:	6,000 miles cruising range

Notes

The Philippines are reported to have secured two new construction destroyer escort type vessels from Japan with reparations money.

ESCORT VESSELS



LEYTE 1956, *Philippine Navy, Official*

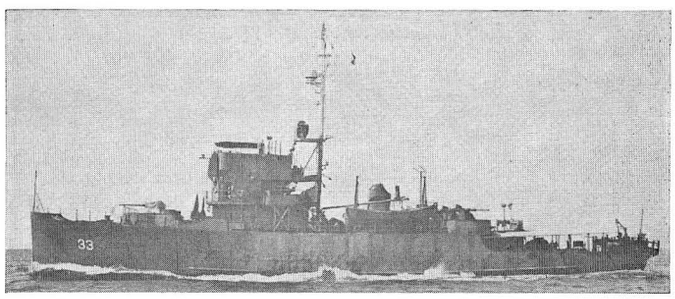
Ex-U.S. PCE Type

CEBU E 28 (ex-*PCE* 881)
ILOILO E 32 (ex-*PCE* 897)
LEYTE E 30 (ex-*PCE* 885)
NEGROS OCCIDENTAL E 29 (ex-*PCE* 884)
PANGASINAN E 31 (ex-*PCE* 891)

Displacement:	850 tons *standard* (903 tons *full load*
Dimensions:	184½ (*o.a.*) × 33 × 9½ feet
Guns:	1—3 inch, 3—40 mm. (E31, 6—40 mm.) AA., 4—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,000=16 kts.
Complement:	81

Notes

Former United States escorts. Built in Portland, Oregon, U.S.A., by Albina Eng. & Mach. Works (E 28, 29, 30) and Willamette Iron & Steel Corp. (E 31, 32). All launched in 1943-44.



SAMAR 1956, *Philippine Navy, Officia*

Ex-U.S. AM Type

SAMAR M 33 (ex-U.S.S. *Project, AM* 278)

Displacement:	850 tons *standard* (945 tons *fulll oad*)
Dimensions:	184½ (*o.a.*) × 33 × 9¾
Guns:	1—3 inch, 4—40 mm. AA., 4—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=14·8 kts.
Complement:	104

Notes

Former U.S. fleet minesweeper. Built by Gulf S.B. Corpn. Launched on 22 Jan. 1944. Steel. Originally a sister ship of the Presidential Yacht. No minesweeping gear. Used as a patrol vessel.

COASTAL MINESWEEPERS

Ex-U.S. MSC Type

ZAMBALES M 55 (ex-U.S.S. *MSC* 218)
ZAMBOANGA DEL NORTE M 56 (ex-U.S.S. *MSC* 219)

Displacement:	335 tons *standard* (375 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 27 × 8½ feet
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 880=14 kts.
Complement:	50

Notes

Non-magnetic coastal minesweepers of the United States "Bluebird" class. *Zambales* was built by Bellingham Shipyard Co., Washington, laid down in Aug. 1954 and launched on 25 Feb. 1955. Both were transferred under the Mutual Defense Assistance Program and commissioned in the Philippine Navy at Seattle, Wash., on 7 Mar. and 23 Apr. 1956, respectively.

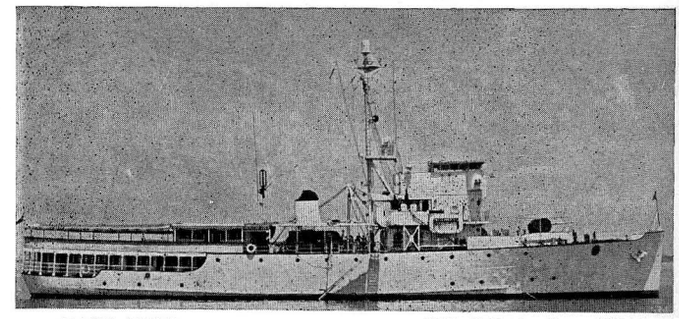
PRESIDENTIAL YACHTS

LAPU-LAPU

Measurement:	2,200 tons *gross*
Machinery:	Burmeister & Wain diesels. 2 shafts. B.H.P.: 5,000=16·5 kts.

Notes

New Presidential Yacht and escort vessel acquired from Japan under the reparation payment programme. Built at Ishikawajima, Japan. Launched in 1958 and completed in 1959. Reported to be named after the chief who killed Magellan.



SANTA MARIA 1956, *Philippine Navy, Official*

Ex-U.S. AM Type

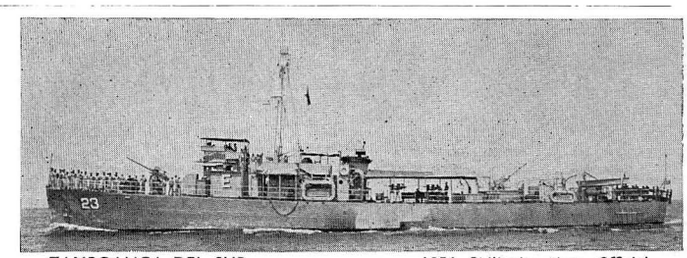
SANTA MARIA (ex-*Pagasa*, ex-*Apo* 21, ex-U.S.S. *Quest, AM* 281)

Displacement:	850 tons *standard*, 881-98 tons *normal* (945 tons *full load*)
Dimensions:	184½ (*o.a.*) × 33 × 9¾ feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=14·8 kts. (trials). Cruising speed: 9 kts., *max.* 14 kts.
Complement:	44

Notes

Converted vessel, former United States fleet minesweeper. Built by the Gulf S.B. Corpn. Launched on 16 Mar. 1944. Of steel construction. Cruising range of 5,600 miles and 23 days.

SUBMARINE CHASERS



ZAMBOANGA DEL SUR 1956 *Philippine Navy, Official*

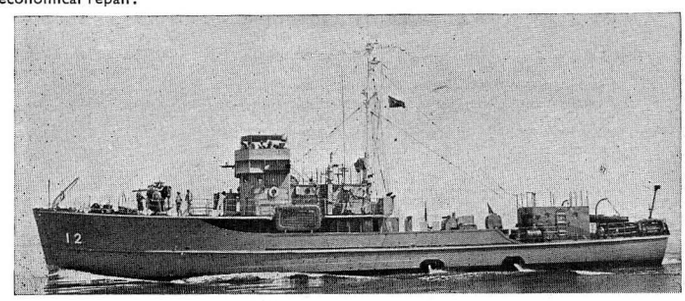
Ex-U.S. PC Type

BATANGAS C 24 (ex-*PC* 1134)
BOHOL C 22 (ex-*PC* 1131)
CAPIZ C 27 (ex-*PC* 1564)
NEGROS ORIENTAL C 26 (ex-*PC* 1563)
NUEVA ECIJA C 25 (ex-*PC* 1241)

Displacement:	330 tons *standard* (450 tons *full load*)
Dimensions:	173⅜ (*o.a.*) × 23 × 6 feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	2 G.M. 2-stroke diesels. 2 shafts. B.H.P.: 3,600=18 kts.
Complement:	60

Notes

Former United States submarine chasers of steel construction. Built in 1942-1944. Transferred in 1947-48. *Zamboango del Sur C* 23 (ex-*PC* 1133) was stricken from the list of Philippine Navy vessels on 16 Nov. 1956. One PC type grounded and considered beyond economical repair.



LAGUNA 1956, *Philippine Navy, Official*

Ex-U.S. PCS Type

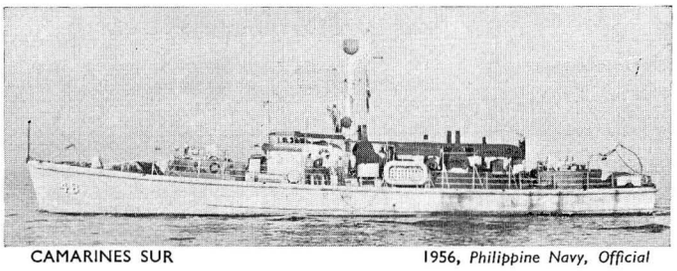
LAGUNA P 12 (ex-*PCS* 1403)
TARLAC P 11 (ex-*PCS* 1399, ex-*YMS* 450)

Displacement:	230 tons *standard* (300 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 8½ feet
Guns:	1—3 inch, 1—40 mm., 4—20 mm.
Machinery:	Diesel. B.H.P.: 1,000=14-14·5 kts.
Complement:	42

Notes

Former United States submarine chasers of wooden construction. Built in 1942-1943. Transferred in Jan. 1948.

PATROL BOATS



CAMARINES SUR 1956, *Philippine Navy, Official*

Ex-U.S. PGM Type

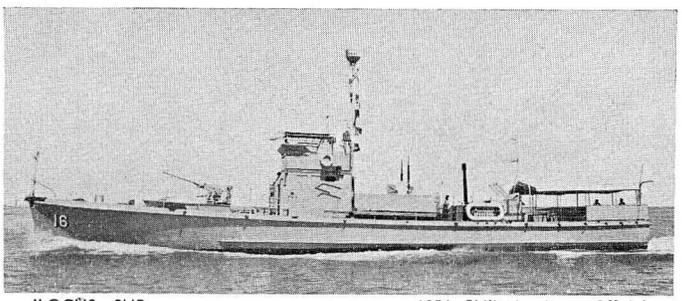
——— (ex-*PGM* 39)
——— (ex-*PGM* 40)
——— (ex-*PGM* 41)
——— (ex-*PGM* 42)

Notes
Four motor gunboats of new construction built by Tacoma Boatbuilding Co., Tacoma, Washington, for transfer under the Mutual Defense Assistance Program. All steel. Ex-PGM 39, completed in Aug. 1959, and ex-PGM 40 were transported to the Philippines aboard ship in Feb. 1960, followed by Ex-PGM 41 and ex-PGM 42 in Apr. 1960. Total cost: $940,000. Similar in design to the six boats below.

ANTIQUE G51 (ex-*PGM* 36)
CAMARINES SUR G48 (ex-*PGM* 33)
LA UNION G50 (ex-*PGM* 35)
MASBATE G52 (ex-*PGM* 37)
MISAMIS OCCIDENTAL G53(ex-*PGM*38)
SULU G 49 (ex-*PGM* 34)

Displacement:	95 tons *standard* (148 tons *full load*)
Dimensions:	110×17×6½ feet
Guns:	1—60 mm. mortar, 2—40 mm. AA., 4—50 cal. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,540=18 kts.
Complement:	27

Notes
Built by Georgia Shipbuilding Co. (formerly MacDonnell Boats) St. Mary's, Georgia. Have the basic design of the former 110 ft. SC. type of the U.S. Navy. First four delivered to the Philippine Navy in 1955; G52 and G53 delivered in 1956.



ILOCUS SUR 1956 *Philippine Navy, Official*

Ex-U.S. SC Type

ALERT (ex-*SC* 1267)
CAVITE P 19 (ex-*SC* 981)
ILOCUS NORTE P 20 (ex-*SC* 1274)
MOUNTAIN PROVINCE P 15 (ex-*SC* 736)
SURIGAO P 17 (ex-*SC* 747)

Displacement:	85 tons *standard* (130 tons *full load*)
Dimensions:	111 (*o.a.*)×17×6 feet
Guns:	1—40 mm. AA., 3—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,000=14-18 kts.
Complement:	28

Notes
Former United States small submarine chasers of wooden construction. Built in 1942-1943. Transferred in 1946-1948. *Cagayan P* 14 (ex-*SC* 731), *Ilocus Sur P* 16 (ex-*SC* 739) and *Isabella P* 18 (ex-*SC* 750) were stricken from the list of Philippine Navy vessels in 1956. During 1956 one SC type was transferred to the Bureau of Customs with two others (as listed) deactivated due to poor material condition.

4 Ex-British SDB Type

SDB 1323 **SDB 1326** **SDB 1328** **SDB 1329**

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72 (*o.a.*)×15⅝×5½ feet
Guns:	1—3 pdr., 1—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 320=12 kts.
Complement:	14

Notes
Former British seaward patrol craft of the HDML type acquired from Australia in 1959.

COAST GUARD UTILITY BOATS

15 Ex-U.S.C.G.C. Type

CGC 100	**CGC 103**	**CGC 106**	**CGC 109**	**CGC 112**
CGC 101	**CGC 104**	**CGC 107**	**CGC 110**	**CGC 113**
CGC 102	**CGC 105**	**CGC 108**	**CGC 111**	**CGC 114**

Notes
Ex-United States Coast Guard Cutters numbered 100-114. All active. No names assigned.

LIGHTHOUSE TENDERS

BOJEADUR L 46 (ex-*FS* 203)
LAUIS LEDGE L 45 (ex-*FS* 185)

Displacement:	470 tons *standard* (811 tons *full load*)
Dimensions:	180 (*o.a.*)×32×10 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,000=11 kts.
Complement:	43

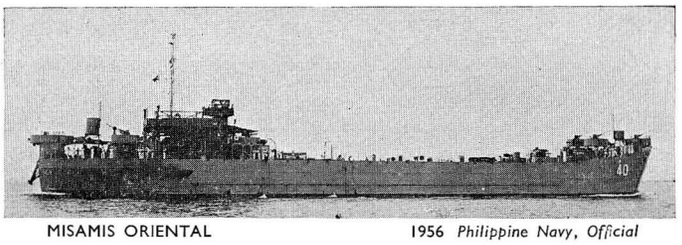
Notes
Ex-United States FS type. Photograph of *Lauis Ledge* in the 1956-57 and 1957-58 editions.

PEARL BANK L 47 (ex-*OL* 4)

Displacement:	162 tons *standard* (301 tons *full load*)
Dimensions:	120 (*o.a.*)×24×8 feet
Guns:	2—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 240=6 kts.
Complement:	43

Notes
Ex-United States OL type. A photograph appears in the 1953-54 to 1957-58 editions.

LANDING SHIPS



MISAMIS ORIENTAL 1956 *Philippine Navy, Official*

Ex-U.S. LST Type

ALBAY T 39 (ex-*LST* 865)
BULACAN T 38 (ex-*LST* 843)
COTABATO T 36 (ex-*LST* 75)
MISAMIS ORIENTAL T 40 (ex-*LST* 875)
PAMPANGA T 37 (ex-*LST* 842)

Displacement:	1,625 tons (*light*), 4,080 tons (*loaded*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*)×50×14 (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=12 kts.
Complement:	90

Notes
Former United States landing ships of the LST type. *Cotabato*, T 36, ex-LST 75, was launched on 7 Apr. 1943. *LST* 72 and *LCU* 117 have been sold.

Ex-U.S. LCI Type

DAVAO I 34 (ex-*LCI* 1058)
LANAO I 35 (ex-*LCI* 1059)

Displacement:	173 tons *standard* (381 tons *full load*)
Dimensions:	159 (*o.a.*)×23¾×5⅔ feet
Guns:	5—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320=14 kts.
Complement:	43

Notes
Davao and *Lanao* are former United States Infantry Landing Craft employed as light-house tenders.

SURVEY SHIP

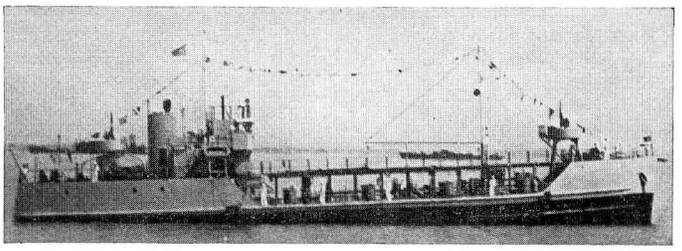
Ex-U.S.C.G.C. Type

SEQUOIA

Displacement:	1,057 tons
Dimensions:	190×30×13 feet
Machinery:	Triple expansion, 2 shafts. I.H.P.: 1,000=12 kts.

Notes
Ex-U.S. Coast Guard buoy tender. In Philippine Navy Reserve. *Anemone* was stricken from the list of Philippine Navy Vessels in 1957.

OILERS



LAKE NAUJAN 1953, *Philippine Navy, Official*

LAKE NAUJAN Y 43 (ex-*YO* 173)

Displacement:	521 tons *standard* (1,400 tons *full load*)
Dimensions:	174 (*o.a.*)×32×13¼ (*max.*) feet
Guns:	2—20 mm.
Machinery:	Diesel. B.H.P.: 560=8 kts.
Complement:	21

Notes
Former United States service oilers of the YO type. Photograph in the 1953-54 to 1957-58 editions.

LAKE TAAL Y 41 (ex-*Y* 19)

Displacement:	484 tons *standard* (1,300 tons *full load*)
Dimensions:	162½ (*o.a.*)×27×12 (*max.*) feet
Guns:	2—50 cal. Browning M.G.
Machinery:	Diesel. B.H.P.: 4,000=6 kts.

Notes
One oiler (YO) was decommissioned in 1956 owing to poor condition.

WATER CARRIER

LAKE LANAO Y 42 (ex-*YW* 125)

Displacement:	1,235 tons *full load*
Dimensions:	174 (*o.a.*)×32×15 (*max.*) feet
Guns:	2—20 mm.
Machinery:	Diesel. B.H.P.: 640=9 kts.
Complement:	21

Notes
Water carrier of ex-United States YW type. Rated as an auxiliary vessel.

TUGS

IFUGAO R 44 (ex-*ATR* 96)

Displacement:	534 tons *standard* (852 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*)×33×13½ feet
Guns:	1—3 inch, 2—20 mm.
Machinery:	Diesel Electric. B.H.P.: 1,500=13 kts.
Complement:	33

Notes
Rescue tug returned to the United States from the United Kingdom, and then transferred to the Philippine Navy. Photograph in the 1956-57 to 1957-58 editions.

IGOROT 222 (ex-*YTL* 572)
MARANAO 221 (ex-*YTL* 574)
MANGYAN 223 (ex-*ST* 1312)

Notes
Small harbour tugs. One tug (YTL) was decommissioned in 1956 due to poor condition.

POLAND

Ships

Polish warships are referred to officially with the prefix "O.R.P."

Personnel

1960: About 15,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
233 vessels of 533,895 tons *gross*

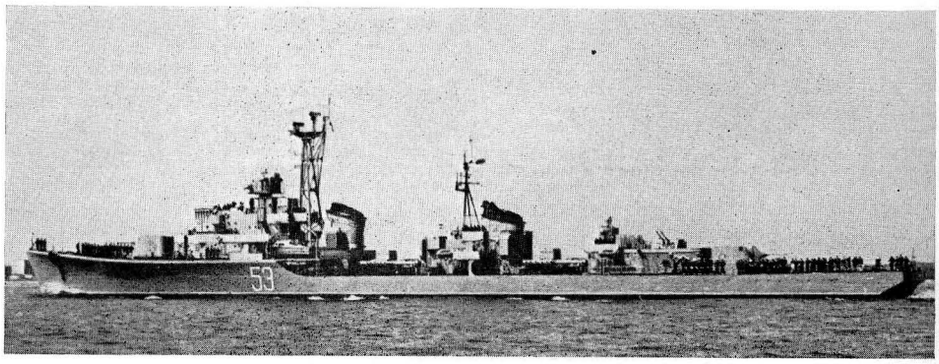
DESTROYERS (*Kontrtorpedowce or Niszczyciele*)

2 Ex-Russian "Skoryi" Class

GROM (ex-*Smetlivyi*) **WICHER** (ex-*Skoryi*)

Displacement:	2,200 tons *standard* (3,000 tons *full load*)
Dimensions:	393⅜ × 37½ × 13¼ feet
Guns:	4—5·1 inch; 2—3 inch AA.; 7—37 mm., AA.
Tubes:	10—21 inch (quintrupled)
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Complement:	280

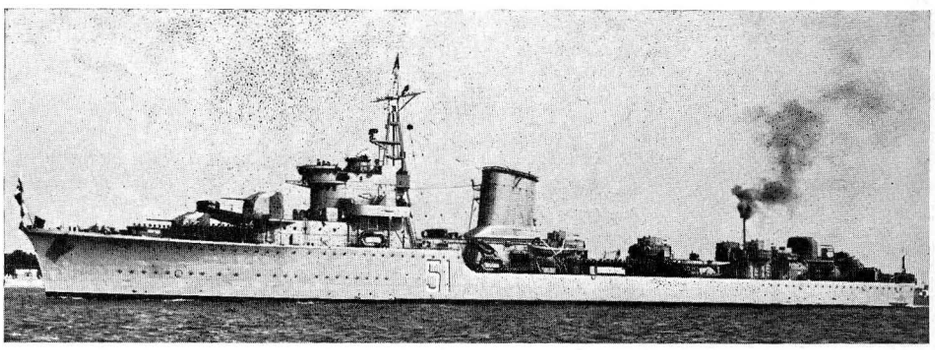
Notes
Former Russian destroyers of the first "Skoryi" type. *Wicher* was in fact the prototype. Delivered by Russia to the Polish Navy on 15 Dec. 1957 (*Grom*) and 28 June 1958 (*Wicher*). Pennant Nos. 53 and 54, respectively. "Grom" means Thunderbolt. "Wicher" means Hurricane.



GROM 1959, *Sergei Romanov*

BLYSKAWICA

Pennant No.:	51
Builders:	J. Samuel White & Co. Ltd., Cowes, Isle of Wight
Laid down:	1935
Launched:	1 Oct. 1936
Completed:	1937
Displacement:	2,144 tons *standard* (3,383 tons *full load*)
Dimensions:	357 (*pp.*), 374 (*o.a.*) × 37 × 10¼ feet
Guns:	8—4 inch AA., 10—37 mm. AA., (2—20 mm. AA. removed)
Tubes:	3—21 inch (tripled)
A/S weapons:	4 D.C.T., 22 D.C. and racks
Machinery:	Parsons geared turbines 2 shafts H.P.: 54,000=39 kts.
Boilers:	4, of 3-drum type
Complement:	180



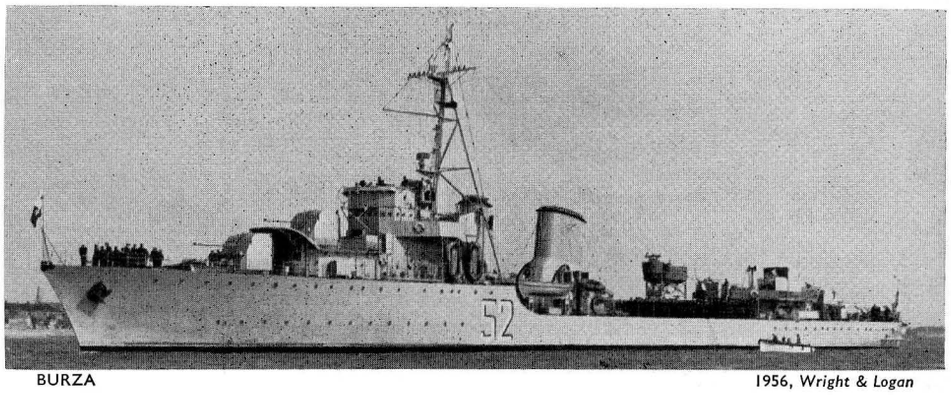
BLYSKAWICA *Wright & Logan*

General Notes
Name means Lightning. Originally fitted for minelaying, and could carry 7 mines; but no longer has minelaying capabilities. Bows were strengthened for ice navigation. The original armament was 7—4·7 inch, 4—47 mm. AA., 4 M.G., 6—21 inch tubes (tripled), 2 D.C.T. The ship was completely dismantled in 1958 down to the hull and superstructure and was entirely rebuilt and her armament modified in 1959-60.

Engineering Notes
Boilers work at 385 lbs. per sq. inch pressure, with 200 degrees of superheat. Ship exceeded her designed speed on trials

BURZA

Pennant No.:	52
Builders:	Chantiers Navals Français, Blainville
Laid down:	1 Nov. 1926
Launched:	16 Apr 1929
Completed:	1930
Displacement:	1,515 tons *standard* (2,430 tons *full load*)
Dimensions:	344 (*w.l.*), 351 (*o.a.*) × 29 × 9¾ feet
Guns:	4—5·1 inch, 8—37 mm. AA.
A/S weapons:	4 D.C.T. and D.C. racks
Machinery:	Geared turbines (supplied by At. & Ch. de la Loire) 2 shafts. S.H.P.: 35,000=33 kts.
Boilers:	3 small-tube
Fuel oil:	300 tons
Complement:	145



BURZA 1956, *Wright & Logan*

General Notes
Meaning of name is Tempest. Can carry 60 mines. Was returned to Poland by Great Britain in March 1951.

Reconstruction Notes
During a refit in 1955 the middle and after funnels were trunked into one, see photo. The original armament was 4—5·1 inch, 2—47 mm. AA., 4 M.G., 6—21 inch torpedo tubes in triple deck mountings.

ESCORT VESSEL

Russian Type

Displacement:	950 tons
Dimensions:	278⅞ × 31½ × 9½ feet
Guns:	3—3·9 inch, 8—37 mm. AA.
Tubes:	3—21 inch
Mines:	Fitted for laying
Machinery:	Geared turbines. 2 shafts. 28 kts.

Notes
The construction of a large escort vessel is in the preparatory stages. A transitional type from the "Kronstadt" to the "Riga" class, she will be built in the Polish yard at Gydnia.

SUBMARINES (*Okrety Podwodne*)

2 Ex-Russian "W" Type

Displacement:	1,050 tons (*standard*), 1,300 tons (*surface*), 1,600 tons (*submerged*)
Dimensions:	245 (*o.a.*) × 24 × 14 feet
Tubes:	6—21 inch (4 forward, 2 aft)
Mines:	Fitted for laying
Machinery:	Diesels. B.H.P.: 4,000=16 kts. (*surface*) Electric motors. H.P.: 2,500=13 kts. (*submerged*)
Radius:	13,000 miles
Complement:	60

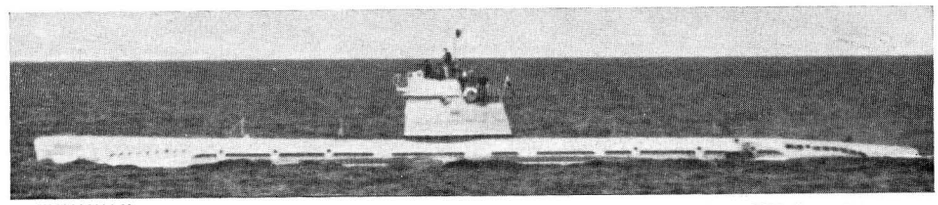
Notes
Former Russian medium sized, long range submarines of the "W" type. Launched in 1955.

Submarines—*continued*

6 Ex-Russian "M" Type

KASZUB **KUJAWIAK** **MAZUR**
KRAKOWIAK **KURP** **PODHALANIN**

Displacement:	350 tons (*surface*), 420 tons (*submerged*)
Dimensions:	167½ × 16 × 11¾ feet
Guns:	1—37 mm. AA.
Tubes:	4—21 inch
Machinery:	Diesels. B.H.P.: 800=13 kts. (*surface*). Electric Motors. H.P.: 400=8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*). 90 miles at 3 kts. (*submerged*)
Complement:	18



KUJAWIAK 1958, *Sergei Romanov*

Notes

Former Russian "M V" Class, coastal submarines M 100-105. All built in 1944-1950. Transferred to the Polish Navy in 1956-57. One ran aground and was so badly damaged that she may be a total loss.

1 "Orzel" Class

SEP

Pennant No.:	B 11
Builders:	Rotterdam Dry Dock Co
Laid down:	1936
Launched:	17 Oct. 1938
Completed:	1939
Displacement:	1,092 tons (*surface*), 1,450 tons (*submerged*)
Dimensions:	273½ (*pp.*), 275½ (*o.a.*) × 22 × 13 feet
Guns:	1—4·1 inch, 2—40 mm. AA.
Tubes:	8—21 inch
Mines:	40
Machinery:	2 Sulzer Diesels B.H.P.: 4,740= 19 kts. *surface*; Electric motors. H.P.: 1,000=9 kts. *submerged*
Complement:	56

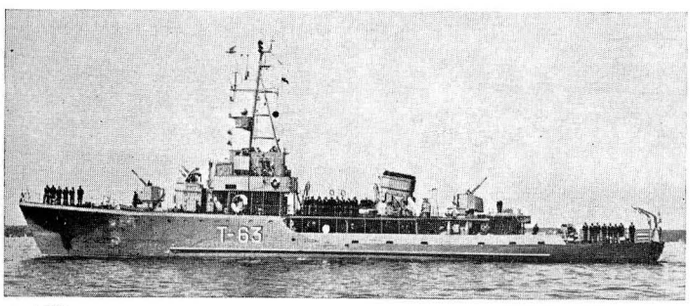
General Notes

This name means Vulture. Fitted for minelaying. Now obsolete and used only for initial training purposes. Photograph in the 1957-58 edition.

Recent Disposals

The three submarines of the "Wilk" class, *Rys*, *Wilk* and *Zbik*, were broken up in 1957.

FLEET MINESWEEPERS



LOS 1959, *Sergei Romanov*

12 Ex-Russian "T43" Type

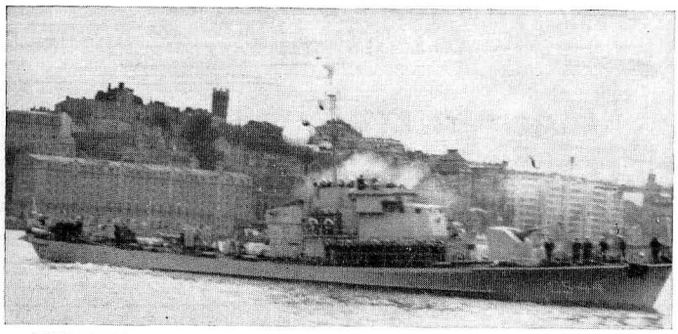
BIZON **DZIK** **LOS** **MORS**
BOBR **FOKA** **TUR** **ZUBR**

Displacement:	410 tons *standard* (530 tons *full load*)
Dimensions:	200 × 27¼ × 9 feet
Guns:	4—37 mm. AA., 8—13 mm. M.G. AA.
Machinery:	Diesel motors. Speed=18 kts.

Notes

A new type of fleet minesweepers and general utility vessels of the Russian "T43" or "SA" class built in Poland at the Stocznia Gdynska, Gydnia. *Bóbr*, *Los*, *Mors*, T 65, *Tur* and *Zubr*, T 64, T 63, T 62 and T 61, respectively, are in service, T 65 is fitting out, and seven more are fiitting out or under construction. Photograph of *Tur*, T 62 in 1958-59 edition.

PATROL VESSELS



ZWROTNY 1958

8 Ex-Russian "Kronstadt" Class

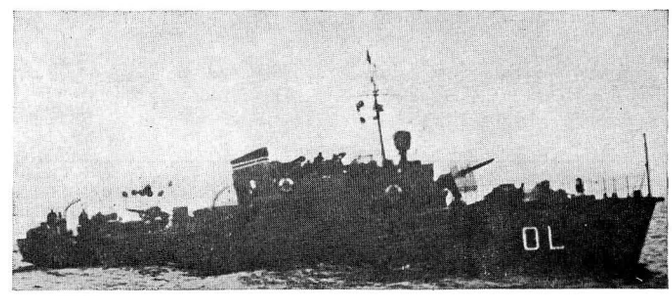
DS 45 GROZNY **DS 46 WYTRWALY** **DS 47 ZRECZNY** **DS 48 ZWINNY**
DS 41 **DS 42 NIEUGIETY** **DS 43** **DS 44 ZWROTNY**

Displacement:	300 tons *standard*
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 4—13 mm. M.G. AA.
Machinery:	2 diesels. Speed=27 kts.
Complement:	40

Notes

Four former Russian improved submarine chasers of the "Kronstadt" class, built in 1953, were acquired by the Polish Navy in 1957, and *Grozny*, *Wytrwaly*, *Zreczny* and *Zwinny* (names mean Strong, Energetic, Clever and Speedy), were delivered on 15 Dec. 1957.

COASTAL MINESWEEPERS (*Tralowce*)



ORLIK *Official*

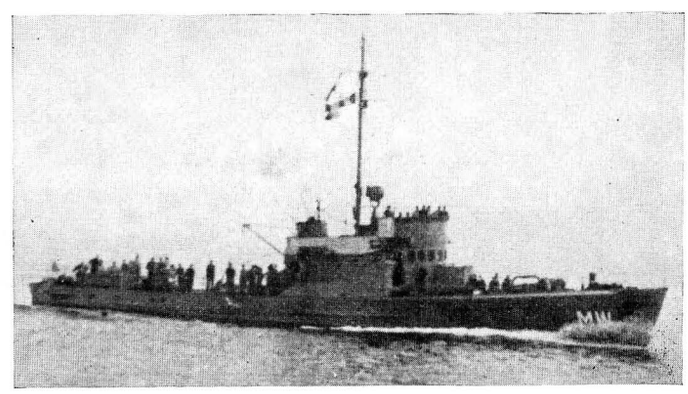
9 Ex-Russian "T" Class

ALBATROS (AL) **JASTRZAB** (JS) **KORMORAN** (KR
CZAPLA (CP) **KANIA** (KN) **KROGULEC** (KG)
JASKOLKA (*ex-T* 465) (JK) **KONDOR** (KD) **ORLIK** (OL)

Displacement:	130 tons
Dimensions:	100 × 16 × 4¼ feet
Guns:	2—20 mm. AA., 4 M.G.
Machinery:	Diesel. 3 shafts. B.H.P.: 480=10 kts.
Complement:	32

Notes

Ex-*T* 228, 243, 244, etc. All built in Rissia in 1944-45. Same type as Russian *T* 371 class. Engines are American. Respective meanings of above names (which are abbreviated to letters painted on bows for identification, as shown against each) are: Albatross, Heron, Swallow, Hawk, Kite, Condor, Cormorant, Sparrowhawk, Eaglet. Now all laid up. *Krogulec* and two others are disarmed and used for training purposes.



MEWA 1958

4 "Bird" Class

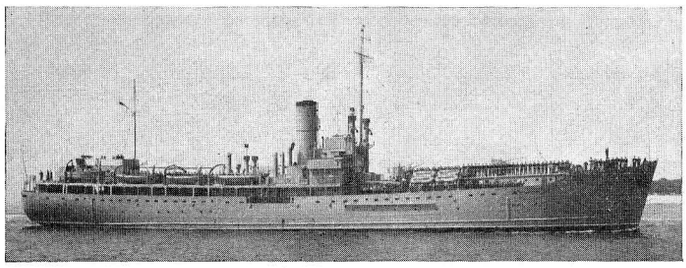
CZAJKA (10 Apr. 1935) **RYBITWA** (26 Apr. 1935)
MEWA (1935) **KOMPAS,** ex-*Zoraw* (22 Aug. 1938)

Displ cement:	140 tons *standard* (183 tons *full load*)
Dimensions:	139½ × 21½ × 5½ feet
Guns	2—37 mm., 2 M.G., except *Kompas*, none
Machinery:	Diesel. B.H.P.: 1,040=15 kts.
Complement:	30

Notes

All built in Poland, *Mewa* and *Kompas* at Gdynia, *Czajka* and *Rybitwa* at Modlin. Launch dates above. Recovered from German hands in 1945. *Czajka* (meaning Lapwing) had been renamed *Westerplatte*. *Mewa* means Seagull, and *Rybitwa*, Tern; these two were numbered *MT* 6 and 7 respectively, by the Germans. *Kompas* is used as a surveying vessel, *HG* 11. Pennant Nos. D 1-4.

TRAINING SHIPS (*Okrety skzolne*)



GRYF 1958, *Wright & Logan*

GRYF (ex-*Zetempowiec*, ex-*Opplem*, ex-*Omsk*, ex-*Empire Contees*, ex-*Irene Oldendorff*)

Measurement:	1,959 tons *gross*
Dimensions:	282½ × 44¼ × 18¾ feet
Guns:	2—3·9 inch, 4—37 mm. AA.
Machinery:	Steam engines. H.P.: 1,200=10 kts.

Notes
Former German "Hansa" class ship. Built by Burmeister & Wain. Launched in 1944. Taken over in 1947 and transferred to the Navy in 1949. The name of this ship was changed from *Zetempowiec* to *Gryf* in 1957.

ISKRA (ex-*Pigmy*, ex-*Iskra*, ex-*St. Blanc*, ex-*Vlissinghr*)

Displacement	560 tons
Dimensions:	128 × 25 × 10 feet
Machinery:	Diesel engines. B.H.P.: 250=7·5 kts.
Complement:	30, plus 40 cadets

Notes
A three masted schooner with auxiliary motors. Built by Müller, Foxhol, Holland. Launched in 1917.

DAR POMORZA (ex-*Prinz Eitel Friedrich*)

Displacement:	1,561 tons
Measurement:	1,566 tons *gross*
Dimensions:	240 × 41 × 21 feet
Machinery:	Diesel engines

Notes
A full rigged ship with auxiliary motors. Built by Blohm & Voss, Hamburg. Launched in 1909. Photograph in the 1957-58 edition.

SURVEYING VESSELS (*Okret hydrograficzny*)

BALTYK

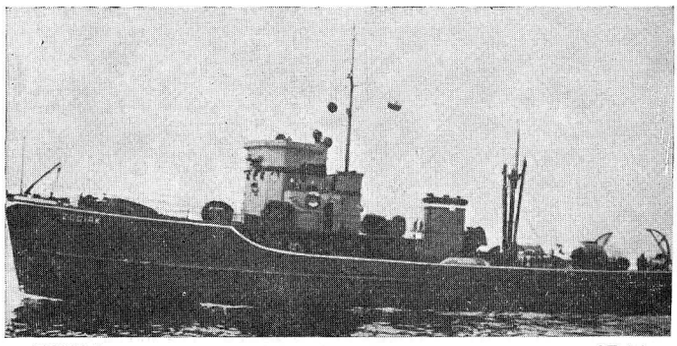
Displacement:	1,000 tons
Measurement:	658 tons *gross*, 450 tons *deadweight*
Dimensions:	194⅓ (*o.a.*), 175⅓ (*pp.*) × 29½ × 14 feet
Machinery:	Steam engine. H.P.: 1,000=11 kts.

Notes
Trawler of B-10 type. Built in 1955 in Gdansk. Converted and structure altered. Unarmed in peacetime.

KOZIOROZEC

Displacement:	219 tons
Dimensions:	120 × 23 × 8 feet
Machinery:	Diesel. B.H.P. 450=12 kts.
Complement:	15

Notes
Built in 1950 by the Finnboda Varv, Stockholm. The coastal minesweeper *HG 11* (*Kompas*, ex-*Zoraw*) is also employed as a surveying vessel (see previous page).



ZODIAK *Official*

1 BYMS Type

ZODIAK

Displacement:	215 tons *standard* (315 tons *full load*)
Dimensions:	136 (*o.a.*) × 24½ × 7¼ feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,000=13 kts.
Complement:	15

Notes
Former British BYMS, built in 1943-1944. *Zodiak*, formerly rated as coastal minesweeper, is employed as a surveying vessel at present. Of her three sister coastal minesweepers *Foka* (Seal) and *Mors* (Walrus) have been disposed of and *Delfin* (Dolphin) is out of commission.

There are also the *Hydrograf I* and *Kontroler I* of 82 tons *gross*; and the *Imor* of 140-tons displacement built in 1958 at Gdynia.

MOTOR TORPEDO BOATS (*Scigacze torpedowe*)

New Construction

Notes
A new series of M.T.B.'s, of Polish design, with gas turbines, is being constructed in Polish yards.

20 Ex-Russian Type

KT 71	**KT 74**	**KT 77**	**KT 80**	**KT 85**	**KT 88**	**KT 91**
KT 72	**KT 75**	**KT 78**	**KT 83**	**KT 86**	**KT 89**	**KT 92**
KT 73	**KT 76**	**KT 79**	**KT 84**	**KT 87**	**KT 90**	

Displacement:	40 tons *standard* (50 tons *full load*)
Dimensions:	85 × 20 × 6 feet
Guns:	4—25 mm. AA. (two twin)
Tubes:	2—21 inch
Machinery:	Diesels. Speed=40 kts.

Notes
Ex-Russian motor torpedo boats of the KT or PA3 type. Wood. Launched in 1954-55.

2 Ex-British Type (*Scigacze artyleryjskie*)

81 **82**

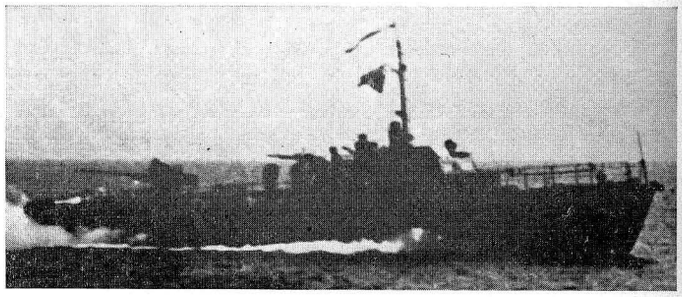
Displacement:	25 tons *standard* (34 tons *full load*)
Dimensions:	60 × 13½ × 2⅔ feet
Guns:	1—20 mm., 4 AA. (twin), 2 M.G.
Tubes:	2—17·7 inch.
Machinery:	S1, 3 shafts. H.P.: 4,050=42 kts.; S2, 2 shafts. H.P.: 2,000=38 kts
Complement:	S1, 15; S2, 11

Notes
Built in Great Britain in 1940. Returned to Poland by Great Britain in March 1951. Now laid up.

MOTOR LAUNCHES (*Kutry motorowe*)

BLYSKAWICZNY (BL) (ex-552)

Displacement:	74 tons *standard*
Dimensions:	82 × 14 × 4 feet
Guns:	2—37 mm. AA., 2—13 mm. AA. M.G.
Machinery:	Diesel motors. Speed: 20 kts.



SMIALY *Official*

BEZWZGLEDNY (BW) (ex-325)
BYSTRY (BS) (ex-326)
DZIARSKI (DR) (ex-327)
DZIELNY (DL) (ex-328)
KARNY (KR) (ex-329)
NIEDOSCIGLY (ND) (ex-368)
NIEUCHWYTNY (NW) (ex-369)
ODWAZNY (OW) (ex-370)
SMIALY (SM) (ex-371)
SPRAWNY (SP) (ex-372)
SZYBKI (SZ) (ex-546)

Displacement:	43 tons *standard*
Dimensions:	78¾ × 13 × 5⅔ feet
Guns:	1—37 mm. AA., 2—13 mm. AA. M.G.
Machinery:	Diesel motors. Speed: 28 kts.
Complement:	22

Notes
Ex-Russian. Of wooden construction. Formerly differentiated by letters painted on bows as noted against each name above. *Blyskawiczny* differs slightly from others in appearance. Meaning of these names are respectively: Lightning-swift, Absolute, Quick, Brisk, Brave, Disciplined, Inaccessible, Unseizable, Courageous, Bold, Efficient and Rapid. Pennant Nos.: S 61-S 70.

OILERS (*Ropowiec*)

STUTTHOF

Displacement:	450 tons

Notes
There are also two small tankers of 300 tons *deadweight* built in 1958 at Gdansk.

Z 1 **Z 2** **Z 3**

Notes
Lighters built in 1900. Taken by the Germans and fitted with diesel engines. After the war they were handed back and converted into tankers.

WATER CARRIER (*Wodotankowiec*)

PLEHMINDORF

Displacement:	500 tons

CABLE VESSEL

KABLOWIEC

Notes
There is now a naval cable vessel of the above name. Converted bunker ship.

PORTUGAL

Administration

Minister of Marine:
Rear-Admiral Fernando Quintanilha Mendonça Dias

Chief of Naval Staff:
Vice-Admiral José Augusto Guerreiro de Brito.

Naval Attaché in London:
Commander (Senior) Jaime Lopes, P.N.

Navy Estimates

1958: Escudos 523,128,741
1959: Escudos 568,477,213
1960: Escudos 571,618,225

Personnel

1960: 887 officers and 8,583 men

Mercantile Marine

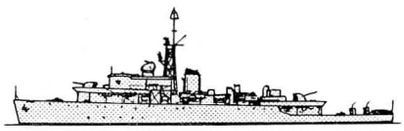
Lloyd's Register of Shipping:
332 vessels of 579,911 tons *gross*

Silhouettes

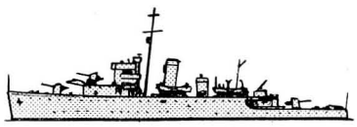
Scale: 150 ft. = 1 inch.



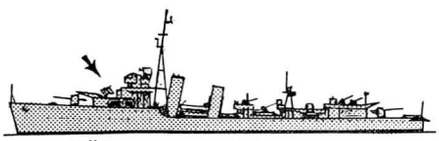
PERO ESCOBAR



ALVARES CABRAL, PACHECO PEREIRA



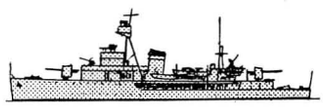
GONÇALO VELHO, GONÇALVES ZARCO



DÃO, LIMA, TEJO, VOUGA



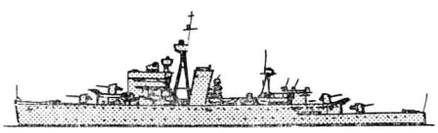
DIOGO GOMES, NUNO TRISTÃO



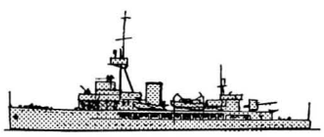
JOÃO DE LISBOA



CORTE REAL, DIOGO CÃO



AFONSO DE ALBUQUERQUE, BARTOLOMEU DIAS



PEDRO NUNES

DESTROYERS (*Contratorpedeiros*)

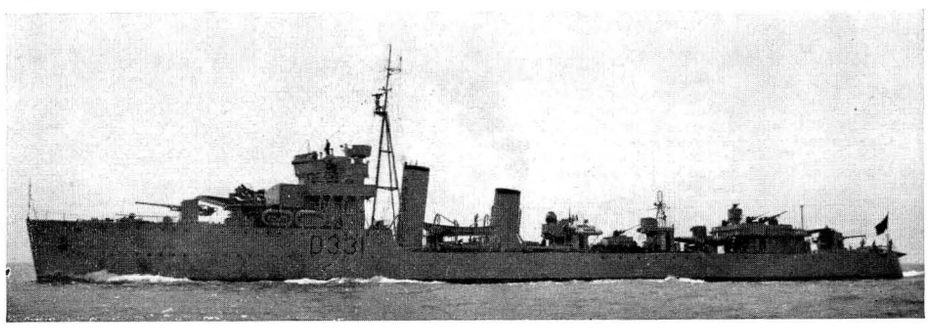
4 "Vouga" Class

British Yarrow Type

DÃO LIMA TEJO VOUGA

Displacement:	1,238 tons *standard* (1,563 tons *full load*)
Dimensions:	307 (*pp.*), 323 (*o.a.*) × 31 × 11 (*mean*) feet
Guns:	2—4·7 inch, 5—40 mm. AA., 2—20 mm. AA., (as modernised)
Tubes:	4—21 inch (quadrupled)
Mines:	Rails fitted and 20 mines carried
A/S weapons:	1 Squid triple-barrelled depth charge mortar
Machinery:	Parsons geared turbines. S.H.P.: 33,000=36 kts.
Boilers:	3 Yarrow (400 lb. pressure)
Oil fuel:	296 tons *normal*, 345 tons *max.*
Radius:	4,000 miles
Complement:	184 (normal)

General Notes
All these destroyers are of Yarrow type. *Dao* and *Tejo* were built at Lisbon. *Vouga* and *Lima* were constructed at Scotstoun by Yarrow & Co. Ltd., as were the machinery and boilers of all four. Refitted during 1946-49 by Yarrow and Vickers-Armstrongs. Reconstruction and modernisation included the shortening of the after funnel stepping of a new tripod foremast, increase in the anti-aircraft armament and the installation of Asdic equipment and radar.



DÃO (silhouette, as modernised with "Squid" in "B" position)

1958, *Portuguese Navy, Official*

Conversion Notes
All four ships were again refitted in 1957 and their armament modified. They have improved anti-submarine capabilities by the installation of ahead throwing weapons (squid mountings). The side thrown projectors were removed, and only two of the depth charge tracks retained.

Gunnery Notes
Two of the five 40 mm. AA. guns are in a twin mounting.

Pennant No.	*Name*	*Launched*	*Completed*
D 331	*Dão*	27 July 1934	Jan. 1935
D 333	*Lima*	29 May 1933	Nov. 1933
D 335	*Tejo*	4 May 1935	Oct. 1935
D 334	*Vouga*	25 Jan. 1933	June 1933

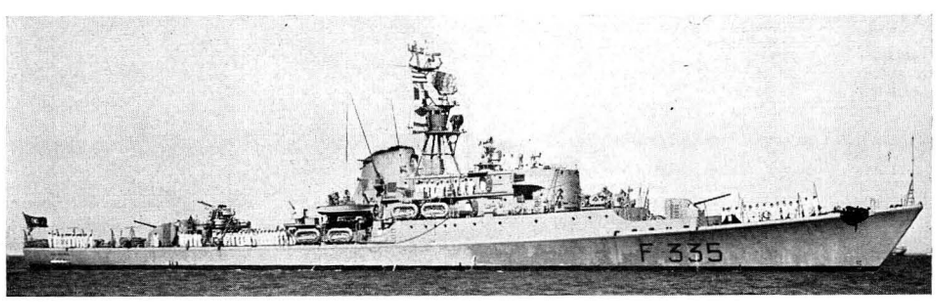
Recent Disposal
It is officially stated that the unconverted fifth ship of this class, *Douro*, was discarded in Dec. 1959.

FAST ANTI-SUBMARINE FRIGATE (*Fragata*) Light Destroyer Type

1 "Pero Escobar" Class

PERO ESCOBAR

Pennant No:	F 335
Builders:	Navalmeccanica, Castellammare di Stabia, Italy
Laid down:	7 Jan 1955
Launched:	25 Sept 1955
Completed:	July 1957
Displacement:	1,250 tons *standard* (1,600 tons *full load*) officially revised figures
Dimensions:	295½ (*pp.*), 306¾ (*w.l.*), 321½ (*o.a.*) × 35½ × 10 feet
Guns:	2—3 inch AA., 2—40 mm. AA. (twin mount), 4—20 mm. AA. (twin mounts)
Tubes:	3—21 inch
A/S weapons:	2 Squid triple barrelled depth charge mortars
Machinery:	Geared Turbines. 2 shafts. S.H.P.: 24,000=32 kts.
Boilers:	2 Ansaldo-Foster Wheeler
Oil fuel:	350 tons
Radius:	2,800 miles at 18 kts.; 4,000 miles at 15 kts.
Complement:	165 (normal)



PERO ESCOBAR

1959, *Portuguese Navy, Official*

General Notes
A "light destroyer" or fast anti-submarine escort vessel built to the order of NATO for the Portuguese Navy.

Photograph Notes
A larger starboard broadside view of *Pero Escobar* appears in the 1957-58 edition

FAST FRIGATES (*Fragatas*) Destroyer Escort Type (DE)

1 New Construction
U.S. "Dealey" Type

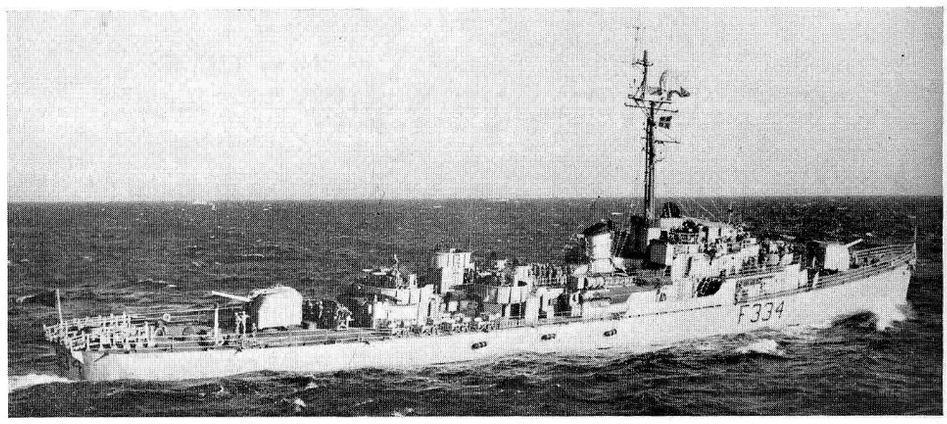
Notes
It is officially estimated that the construction of this ship will begin in Portugal in 1960. Particulars of armament and equipment are not yet settled, it is stated. It is anticipated that two more will be built in Portugal.

2 "Diogo Cªo" Class
Ex-U.S. "John C. Butler" Class

CORTE REAL (ex-U.S.S. *McCoy Reynolds, DE 440*)
DIOGO CÃO (ex-U.S.S. *Formoe, DE 509*)

Name:	*Corte Real*	*Diogo Cão*
Pennant No:	F 334	F 333
Builders:	Federal S.B. & D.D. Co., Port Newark	Federal S.B. & D.D. Co., Port Newark
Launched:	22 Feb. 1944	2 Apr. 1944
Completed:	2 May 1944	5 Oct. 1944

Displacement:	1,350 tons *standard* (2,100 tons *full load*)
Dimensions:	306 (*o.a.*) × 35⅜ × 11 (*max.*) feet
Guns:	2—5 inch, 38 cal.; 10—40 mm. AA. (3 twin mounts, 1 quadruple mount)
A/S weapons:	1 hedgehog, 8 D.C.T.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 12,000=24 kts.
Boilers:	2
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	200 (normal)



CORTE REAL — 1959, *Portuguese Navy, Official*

General Notes
Former United States destroyer escorts of the "John C. Butler" class, received from the U.S. Navy by special agreement and transferred to Portugal at San Francisco, California, on 7 Feb. 1957. The original 3—21 inch torpedo tubes in these ships were removed. They were originally to have been renamed by the Portuguese *Zambeze* and *Zaire*, after rivers in Portuguese Africa, but were changed to the names of Portuguese navigators as above.

Photograph Notes
A port bow oblique aerial view of *Diogo Cão* appears in the 1958-59 edition.

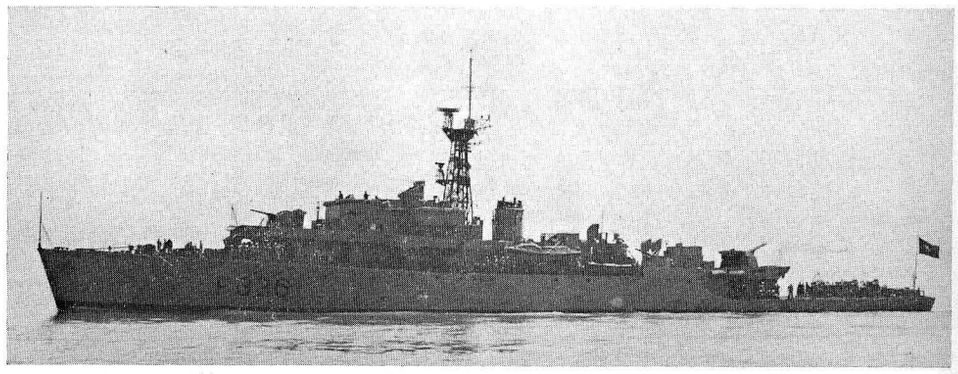
FRIGATES (*Fragatas*)

2 "Alvares Cabral" Class
Ex-British "Bay" Class

ALVARES CABRAL (ex-H.M.S. *Burghead Bay*)
PACHECO PEREIRA (ex-.H.M.S. *Bigbury Bay*)

Name:	*Alvares Cabral*	*Pacheco Pereira*
Pennant No.:	F 336	F 337
Builders:	Charles Hill & Sons Ltd., Bristol	Hall, Russell & Co. Ltd., Aberdeen
Laid down:	21 Sep. 1944	30 May 1944
Launched:	3 Mar. 1945	16 Nov. 1944
Completed:	20 Sep. 1945	10 July 1945

Displacement:	1,600 tons *standard* (2,580 tons *full load*) officially revised figures.
Dimensions:	286 (*pp.*), 307½ (*o.a.*) × 38½ × 12¾ feet (15½ feet *max.*)
Guns:	4—4 inch, 6—40 mm. AA.
A/S weapons:	1 Hedgehog, 4 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 5,500=19·5 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	680 tons
Radius:	9,500 miles at 12 kts.
Complement:	168 (normal)



ALVARES CABRAL — 1960, *Portuguese Navy, Official*

General Notes
Former British frigates of the "Bay" class, designed primarily for anti-aircraft escort duties. Purchased from Great Britain in Apr. 1959 and officially transferred to the Portuguese Navy at Plymouth on 11 May 1959.

Photograph Notes
A photograph of *Pacheco Pereira* appears in the 1959-60 edition.

2 "Diogo Gomes" Class
Ex-British "River" Class

DIOGO GOMES (ex-H.M.S. *Awe*)
NUNO TRISTÃO (ex-H.M.S. *Avon*)

Name:	*Diogo Gomes*	*Nuno Tristão*
Pennant No.:	F 331	F 332
Builders:	Fleming & Ferguson Ltd., Paisley	Charles Hill & Sons Ltd., Bristol
Laid down:	27 May 1943	8 Jan. 1943
Launched:	28 Dec. 1943	19 June 1943
Completed:	21 Apr 1944	18 Sep. 1943

Displacement:	1,460 tons *standard* (1,865 tons *full load*)
Dimensions:	283 (*pp.*), 301½ (*o.a.*) × 36¾ × 12 feet
Guns:	2—4 inch, 6—40 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.:
A/S weapons:	1 Hedgehog, 4 D.C.T. (see notes) 5,500=20 kts.
Boilers:	2 Admiralty 3-drum type
Oil fuel:	650 tons
Radius:	9,500 miles at 12 kts.
Complement:	175 (normal)



DIOGO GOMES — 1958, *courtesy Eng. Captain Aluino Martins da Silva, P.N.*

General Notes
Former British frigates of the "River" class. Purchased from Great Britain in 1948 and transferred to Portugal in May 1949. These ships have shown very good endurance and sea-keeping qualities. The originally designed standard displacement was 1,370 tons.

A/S Notes
These ships were refitted in 1959. Their anti-submarine capabilities were improved by the installation of 2 squid triple-barrelled depth charge mortars. The 4 side thrown projectors were removed and only two depth charge tracks were retained. (official statement).

Photograph Notes
Starboard broadside view of *Nuho Tristao* in 1957-58 edition.

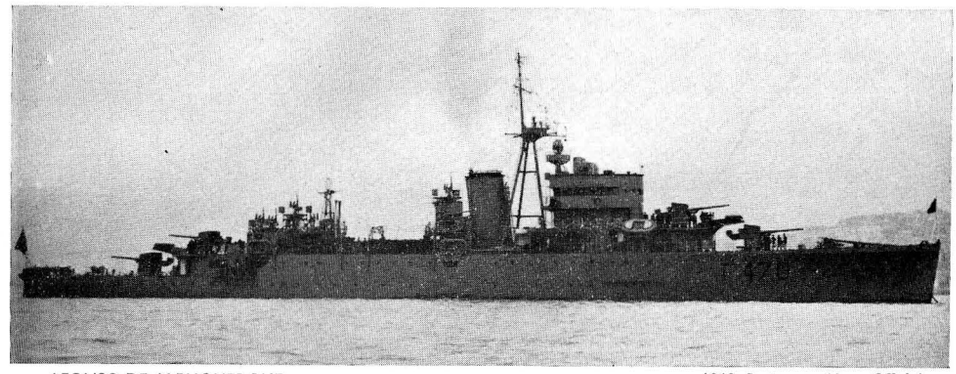
FRIGATES (Rated as First Class Sloops, *Avisos de Primeira Classe*)

2 "Afonso de Albuquerque" Class

AFONSO DE ALBUQUERQUE
BARTOLOMEU DIAS

Name:	*Afonso de Albuquerque*	*Bartolomeu Dias*
Pennant No.:	F 470	F 471
Builders:	R. & W. Hawthorn Leslie & Co. Ltd., Hebburn-on-Tyne	R. & W. Hawthorn Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	1933	24 May 1933
Launched:	28 May 1934	10 Oct. 1934
Completed:	Mar. 1935	May 1935

Displacement: 1,783 and 1,788 tons *standard* respectively (2,434 and 2,439 tons *full load* respectively)
Dimensions: 326¾ × 44½ × 12½ feet (*mean*)
Guns: 4—4·7 inch, 50 cal., 2—3 inch AA., 8—20 mm. AA.
A/S weapons: 4 D.C.T.
Mines: Capacity 40
Machinery: Parsons geared turbines. S.H.P.: 8,000=21 kts.
Boilers: 2 Yarrow
Oil fuel: 580 tons
Radius: 8,000 miles at 10 kts.
Complement: 184 (normal)



AFONSO DE ALBUQUERQUE — 1960, *Portuguese Navy, Official*

General Notes
The original contract for these ships was placed with Odero-Terni-Orlando in 1931, but cancelled in 1932, and the design was modified by the new builders when a fresh contract was made. Both ships made 22 kts. on trials without being pressed. *Bartolomen Dias* no longer has a white band around her funnel since both ships have pennant numbers painted on bows. Designed for overseas service. Fitted to carry 40 mines.

Photograph Notes
A photograph of *Bartolomeu Dias* appears in the 1958-59 and 1959-60 editions.

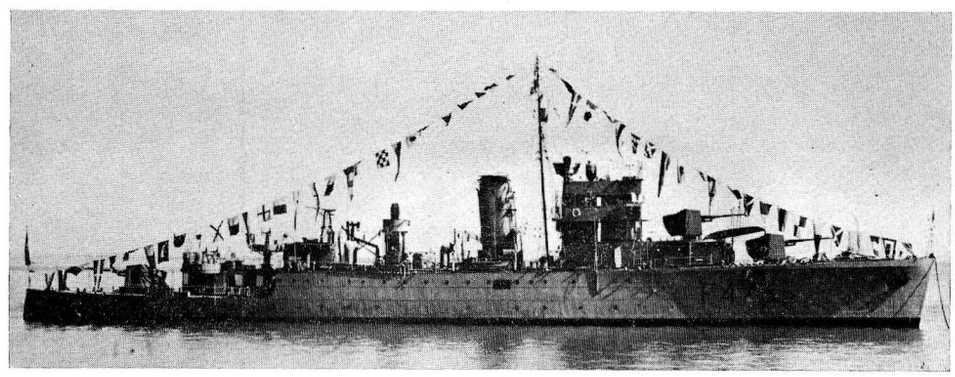
FRIGATES (Rated as Second Class Sloops, *Avisos de Segunda Classe*)

2 "Gonçalo Velho" Class

GONÇALO VELHO **GONÇALVES ZARCO**

Name:	*Gonçalo Velho*	*Gonçalves Zarco*
Pennant No.:	F 475	F 476
Builders:	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne	R. & W. Hawthorn, Leslie & Co. Ltd., Hebburn-on-Tyne
Laid down:	9 Oct. 1931	9 Oct. 1931
Launched:	3 Aug. 1932	28 Nov. 1932
Completed:	May 1933	Sep. 1933

Displacement: 950 tons *standard* (1,414 tons *full load*)
Dimensions: 250 (*pp.*), 268 (*o.a.*) × 35½ × 11¼ feet. (*mean*)
Guns: 3—4·7 inch, 50 cal., 5—20 mm. AA.
A/S weapons: 4 D.C.T.
Machinery: Parsons geared turbines. 2 shafts S.H.P.: 2,000=16·5 kts.
Boilers: 2 Yarrow
Oil fuel: 335 tons *normal*, 470 tons *max.*
Radius: 9,831 miles at 11 kts.
Complement: 142 (normal)



GONÇALO VELHO — 1960, *Portuguese Navy, Official*

Notes
Similar to the former British sloops of the "Bridgewater" Class. The mainmast is now reduced to little more than a staff. On their first full speed trials these ships made a speed of 17·4 knots for four hours. *Gonçalves Zarco* no longer has a white band around her funnel (now has pennant number on bows).

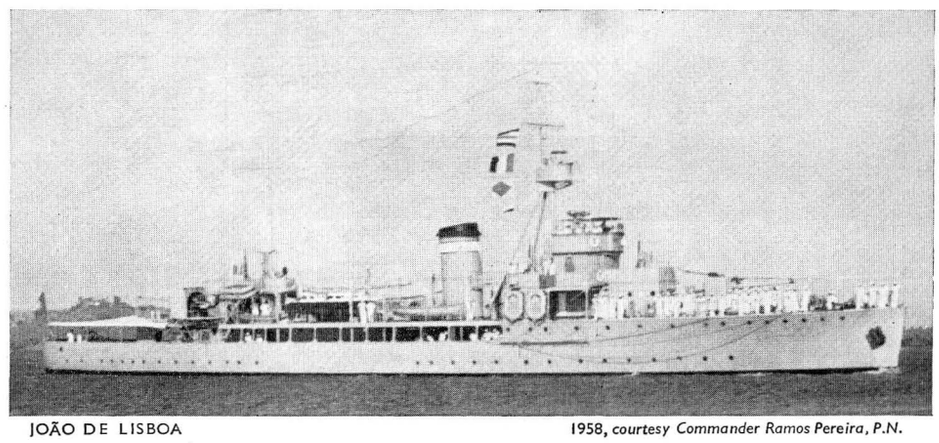
Photograph Notes
A photograph of *Gonçalves Zarco* appears in the 1951-52 to 1959-60 editions.

1 "Pedro Nunes" Class

JOÃO DE LISBOA (ex-*Infante D. Henrique*)

Name:	*João de Lisboa*
Pennant No.:	F 477
Builders:	Naval Arsenal, Lisbon
Laid down:	18 Apr. 1934
Launched:	21 May 1936
Completed:	Aug. 1937

Displacement: 1,091 tons *standard* (1,218 tons *full load*)
Dimensions: 234⅓ (*pp.*) × 32⅔ × 9⅓ (*mean*), 10⅓ (*max.*) feet
Guns: 2—4·7 inch, 50 cal., 4—20 mm. AA.
A/S weapons: 4 D.C.T.
Machinery: 2 sets M.A.N. 8 cycle Diesels. B.H.P.: 2,400=16·5 kts.
Oil fuel: 110 tons *normal*, 126 tons *max.*
Radius: 8,850 miles at 12 kts., 4,800 at 16 kts.
Complement: 99 (normal)



JOÃO DE LISBOA — 1958, *courtesy Commander Ramos Pereira, P.N.*

General Notes
This ship was built as part of ten-year programme introduced in 1930. She no longer has a white band around her funnel.

Class Notes
Sister ship *Pedro Nunes* is now a surveying vessel in Portuguese Guinea (see under Surveying Vessels on following page).

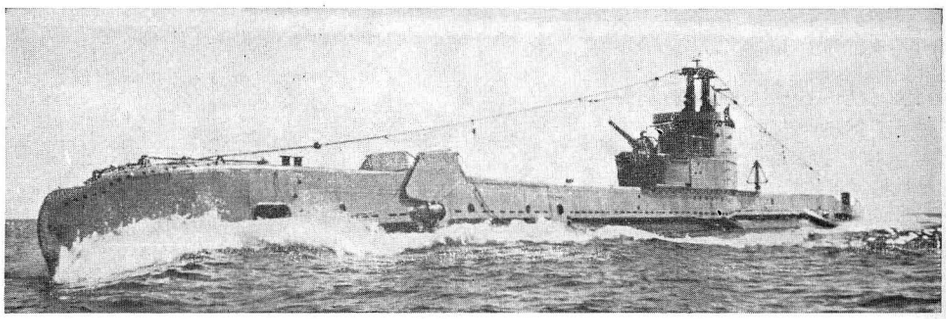
SUBMARINES (*Submersiveis*)

3 "Narval" Class
Ex-British "S" Class

NARVAL (ex-H.M.S. *Spur*) **NEPTUNO** (ex-H.M.S. *Spearhead*)
NAUTILO (ex-H.M.S. *Saga*)

Displacement:	715 tons (*standard*), 814 tons (*surface*) 990 tons (*submerged*)
Dimensions:	217 (*o.a.*) × 23¾ × 10½ (*mean*) feet
Guns:	1—4 inch, 1—20 mm. Oerlikon, 3 Vickers GO M.G.
Tubes:	6—21 inch (*bow*). 12 torpedoes carried
Machinery:	Diesels. B.H.P.: 1,900=14¾ kts. (*max.*) (*surface*) Electric motors. H.P.: 1,300=9 kts. (*max.*) (*submerged*)
Oil fuel:	87 tons (*normal stowage*)
Radius:	5,000 miles at 10 kts.
Complement:	45 (normal)

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
S 160	*Narval*	1 Oct. 1943	17 Nov. 1944	18 Feb. 1945
S 161	*Nautilo*	5 Apr. 1944	11 Mar. 1945	14 June 1945
S 162	*Neptuno*	18 Aug. 1943	2 Oct. 1944	21 Dec. 1944



NEPTUNO — 1957, *Portuguese Navy, Official*

Notes
"S" Class submarines all purchased from Great Britain in 1948. All built by Cammell Laird & Co. Ltd., Birkenhead. Designed for offensive operations in confined waters. Pennant numbers are now painted on the conning towers.

OCEAN MINESWEEPERS (*Draga-minas oceânicos*)



SAO JORGE — 1960, *Portuguese Navy, Official*

4 "Sao Jorge" Class
Ex-U.S. MSO Type

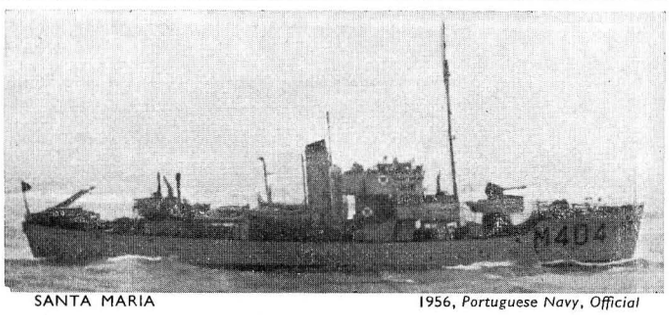
CORVO (ex-U.S.S. *MSO* 487) **PICO** (ex-U.S.S. *MSO* 479)
GRACIOSA (ex-U.S.S. *MSO* 486) **SÃO JORGE** (ex-U.S.S. *MSO* 478)

Displacement:	665 tons *standard* (750 tons *full load*)
Dimensions:	165 (*pp.*), 172 (*o.a.*) × 35 × 10 (*mean*) feet
Guns:	1—40 mm. AA.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 1,600=13·5 kts. (*max.*), 10 kts. economical speed
Oil fuel:	46 tons
Radius:	2,800 to 3,100 miles at 10 to 11 kts.
Complement:	69 (normal)

General Notes
Former American "MSO 421" class ocean minesweepers built in the United States under the Mutual Defense Assistance Program. *Pico* and *São Jorge* were delivered in 1955. Constructed of wooden and non-magnetic materials. *Graciosa* was built by Burger Boat Co., Manitowoc, Wisconsin, laid down on 16 May 1953, launched on 19 Nov. 1953, and commissioned on 15 Aug. 1955, Pennant Nos., M 418, M 417, M 416 and M 415, respectively.

Engineering Notes
The diesels, of non-magnetic stainless steel alloy, are model 8-278A, two stroke cycle, non-reversible, 8 cylinder V engines. Controllable pitch propellers are fitted.

MINESWEEPERS (*Caça-Minas*)



SANTA MARIA — 1956, *Portuguese Navy, Official*

2 "Santa Maria" Class
Ex-British "Isles" Class Minesweeping Trawlers

FAIAL (ex-*Mangrove*) **SANTA MARIA** (ex-*P* 4, ex-*Whalsay*)

Displacement:	545 to 560 tons (770 to 800 tons *full load*)
Dimensions:	152 × 27½ × 15 feet
Guns:	1—3 inch, 2—20 mm. AA., D.C. carried
Machinery:	Triple expansion. I.H.P.: 850=12 kts.
Complement:	53 (normal)

Notes
Minesweeping trawlers purchased from Great Britain in 1945 and 1947, and named after islands in the Azores. Originally classified as patrol vessels but subsequently rated as minesweepers. Their former pennant numbers were given to the "São Roque" class. Their present pennant numbers are M 391 and M 392, respectively. Of four sister ships, *S. Miguel* (ex-*Brurey*) was discarded in 1956 and *Terceira* (ex-*Hayling*) was discarded in 1957, while *Baldaqua da Silva* (ex-*Ruskholm*) and *Salvador Correia* (ex-*Saltarelo*) were reclassified as surveying vessels.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Faial	Ferguson Bros. Ltd.	18 Aug. 1939	15 Feb. 1940	23 Apr. 1940
Santa Maria	Cook, Welton & Gemmell	19 Dec. 1941	4 Apr. 1942	4 Sept. 1942

COASTAL MINESWEEPERS (*Draga-Minas Costeiros*



LAGOA — 1958, *Wright & Logan*

4 "Sao Roque" Class ("Ton" Type)

LAGOA **RIBEIRA GRANDE** **ROSARIO** **SÃO ROQUE**

Displacement:	360 tons *standard* (425 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28¾ × 7 feet
Guns:	1—40 mm. AA., 2—20 mm. AA. (twin mount)
Machinery:	2 Mirrlees diesels 2 shafts. B.H.P.: 1,250=15 kts.
Complement:	47

Notes
Similar to the British "Ton" class of coastal minesweepers, but built in Portugal. All laid down at C.U.F. Shipyard, Lisbon, on 7 Sep. 1954, under the OPS-MAP. *Lagao* and *São Roque* were financed by U.S.A., and the other two by Portugal.

Pennant No	*Name*	*Launched*	*Completed*
M 403	*Lagoa*	15 Sep. 1955	10 Aug. 1956
M 402	*Ribeira Grande*	14 Oct. 1955	8 Feb. 1957
M 404	*Rosário*	29 Nov. 1955	8 Feb. 1957
M 401	*São Roque*	16 Aug. 1955	4 June 1956



HORTA — *Added 1957, Official*

8 "Ponta Delgada" Class

ANGRA DO HEROISMO (ex-U.S.S. *AMS* 62) **SANTA CRUZ** (ex-U.S.S. *AMS* 92)
HORTA (ex-U.S.S. *AMS* 61) **S. PEDRO** (ex-S. *Roque*, ex-*AMS* 147)
LAJES (ex-U.S.S. *AMS* 146) **VELAS** (ex-U.S.S. *AMS* 145)
PONTA DELGADA (ex-U.S.S. *Adjutant*, *AMS* 60) **VILA DO PORTO** (ex-U.S.S. *AMS* 91)

Displacement:	375 tons
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 27 × 8 feet
Guns:	2—20 mm. AA. (twin mount)
Machinery:	Diesel. Speed 14 kts.
Complement:	40 (normal)

Notes
Of wooden and non-magnetic construction. *Ponta Delgada* was transferred from the United States on 7 Apr. 1953. First of group of AMS 60 class motor minesweepers specially constructed for NATO nations. Four more were delivered in 1953-54, and the remaining three in 1955.
Pennant Nos.: M 407 (*Angra do Heroismo*), M 406 (*Horta*), M 405 (*Ponta Delgada*), M 409 (*Santa Cruz*), M 408 (*Vila do Porto*), M 410 (*Velas*), M 411 (*Lajes*), M 412 (*S. Pedro*).

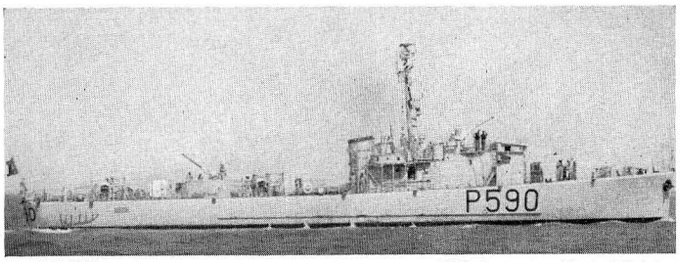
AUXILIARY GUNBOAT (*Canhoneira*)

DIO

Displacement:	397 tons *standard* (492 tons *full load*)
Dimensions:	147¾ × 27¼ × 7 feet
Guns:	2—3 inch, 40 cal. (Armstrong), 2—47 mm.
Machinery:	Triple expansion. 2 shafts. H.P.: 700=13 kts
Boilers:	Yarrow
Coal:	85 tons
Radius:	3,200 miles at 9 kts.
Complement:	67

Notes
Built at Lisbon Dockyard. Launched in Oct. 1929. Now employed as a training ship for Portuguese naval reservists and ancillary forces, and classed as an auxiliary with an auxiliary pennant number, A 5205

PATROL VESSELS (*Patrulhas*)



BRAVA 1958, *Portuguese Navy, Official*

8 "Maio" Group U.S. PC Type

5 Portuguese Built

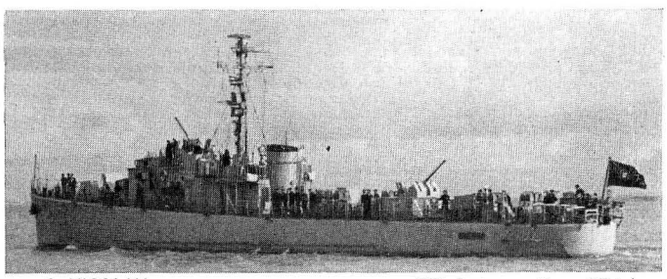
BOAVISTA **FOGO** **SANTA LUZIA**
BRAVA **SANTO ANTÃO**

Displacement:	366 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*), 173¾ (*o.a.*) × 23⅛ × 9⅞ (*mean*) feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog, 4 depth charge throwers, 2 depth charge tracks
Machinery:	4 SEMT-Pielstick diesels (4-stroke, 14 cylinder V). 2 shafts. B.H.P.: 3,500=19 kts.
Oil fuel:	45 tons
Radius:	3,900 miles at 12 kts.
Complement:	62 (normal)

Notes

Submarine chasers of the U.S. PC type. Similar to the class of three patrol vessels built in France, see below, but built in Portugal under the U.S. offshore procurement programme of the Mutual Defense Assistance Program. Of all-welded construction, *Brava* and *Fogo* were built in dry-dock and were floated out on 2 May 1956. *Boavista* was commissioned on 10 July 1956, at Figueira da Foz.

Pen. No.	*Name*	*Builders*	*Launched*	*Completed*
P 592	*Boavista*	Estaleiros Navais do Mondego	16 June 1956	17 May 1957
P 590	*Brava*	Estaleiros Navais de Viana do Castelo	2 May 1956	27 Dec. 1956
P 591	*Fogo*	Estaleiros Navais de Viana do Castelo	2 May 1956	11 Apr. 1957
P 594	*Santa Luzia*	Arsenal do Alfeite	17 Jan. 1957	24 Oct. 1958
P 593	*Santo Antao*	Arsenal do Alfeite	8 June 1956	30 Dec. 1957



S. NICOLAU 1956, *Portuguese Navy, Official*

3 French Built

MAIO (ex-*Funchal*, ex-*P 4*) **PORTO SANTO** (ex-P 5) **S. NICOLAU** (ex-*P 8*)

Displacement:	366 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*), 173¾ (*o.a.*) × 23⅛ × 9⅞ feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog. 4 D.C.T. 2 depth charge tracks
Machinery:	4 SEMT-Pielstick diesels. 2 shafts. B.H.P.: 3,240=17·5 kts.
Radius:	2,000 miles at 15 kts.
Complement:	62

Notes

These three patrol vessels of U.S. PC design were built in France as a United States offshore procurement order under the Mutual Defense Assistance Program. Fitted with two mine rails.

Pennant No.	*Name*	*Builders*	*Launched*
P 587	*Maio*	Dubigeon, Nantes	27 Sep. 1954
P 588	*Porto Santo*	Normand (Le Havre)	9 Feb. 1955
P 589	*S. Nicolau*	Normand (Le Havre)	7 June 1955



SAL 1960, *Portuguese Navy, Official*

6 "Principe" Type
Ex-U.S. PC Type

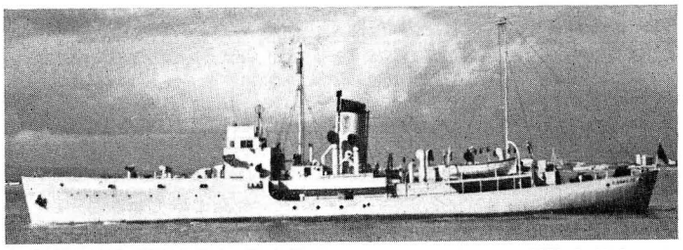
P 581 **PRINCIPE** (ex-*Flores*, ex-*PC 812*) P 583 **SANTIAGO** (*ex-PC 1257*)
P 582 **MADEIRA** (*ex-PC 811*) P 585 **S. TOME** (*ex-PC 1256*)
P 584 **SAL** (*ex-PC 809*) P 586 **S. VICENTE** (*ex-PC 1259*)

Displacement:	318 tons *standard* (357 tons *full load*) officially revised figures
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 7½ feet
Guns:	1—40 mm. AA., 3—20 mm. AA. (see notes)
A/S weapons:	1 Hedgehog. 4 depth charge throwers. 2 depth charge tracks
Machinery:	2 Hamilton 2-stroke diesels. 2 shafts. B.H.P.:2,600=19 kts.
Complement:	62 (normal)

Notes.

Purchased from United States. Named after Portuguese Atlantic islands. For patrol and Air/Sea Rescue duties in Azores, Madeira, and off Portuguese coast. The armament of these ships was modified in 1957, anti-submarine weapons being added and the 3 inch gun and two 20 mm. gund being removed. A photograph of *Santiago* appears in the 1955-56 to 1959-60 editions.

SURVEYING VESSELS (*Navios Hidrograficos*)



CARVALHO ARAUND (ex-Terje Ten) 1959, *R. M. Scott*

1 Ex-British "Flower" Class Frigate

CARVALHO ARAUJO (ex-*Terje Ten*, ex-*Commandant Drogou*, ex-*Chrysanthemum*)

Displacement:	1,020 tons *standard* (1,340 tons *full load*)
Dimensions:	190 (*pp.*), 205 (*o.a.*) × 33 × 14½ (*mean*), 16½ (*max.*) feet
Guns:	1—3 inch, 4—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,750=16 kts.
Boilers:	2 cylindrical
Oil fuel:	232 tons
Complement:	39 (normal)

Notes

Former British corvette (later re-rated as a frigate) of the "Flower" class. Built by Harland & Wolff Ltd., Belfast. Laid down on 17 Dec. 1940, launched on 11 Apr. 1941, and completed on 26 Jan. 1942. Served in the French Navy during the Second World War. Sold out of the service after hostilities. Purchased by the Portuguese Navy from the Hector Whaling Com pany, at Capetown, in Mar. 1959, and later equipped as a surveying vessel to replace the former *Carvalho Araujo* (ex-British "Flower" class minesweeping sloop *Jonquil*) which was discarded in 1959. Pennant No.: A 524.



ALMIRANTE LACERDA *Lieut. Fernando Coelho da Farseca, P.N.*

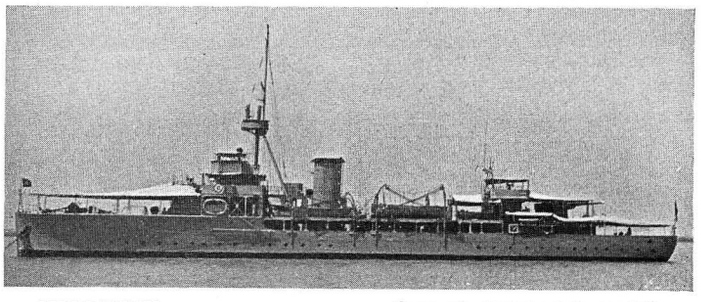
2 Ex-British "Bangor" Class Fleet Minesweepers

ALMIRANTE LACERDA (*ex-Caraquet*)
COMANDANTE ALMEIDA CARVALHO (ex-*Fort York*, *ex-Mingan*)

Displacement:	672 tons *standard* (900 tons *full load*)
Dimensions:	171½ (*pp.*), 180 (*o.a.*) × 28½ × 9½ (*max.*) feet
Guns:	1—3 inch, 2—20 mm. AA. (*Almirante Lacerda* only)
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=16 kts.
Boilers:	2, of 3-drum small-tube type
Oil fuel:	160 tons
Complement:	*Almirante Lacerda*: 46. *Comandante Almeida Carvalho*: 83

Notes

Former British fleet minesweepers of the "Bangor" class, steam type. Built in Canada, launched on 2 June and 24 Aug. 1941, and purchased from Great Britain in 1946 and 1950 respectively. *Commandante Almeida Carvalho* (photograph in the 1957-58 edition) no longer has a white band around her funnel. Pennant numbers A 525 and A 527, respectively.



PEDRO NUNES *Commander Monteiro de Barros, P.N.*

Ex-Frigate (Second Class Sloop)

PEDRO NUNES

Displacement:	1,090 tons *standard* (1,197 tons *full load*)
Dimensions:	223 (*pp.*) × 32¾ × 9⅓ (*mean.*), 10½ (*max.*) feet
Guns:	1—4·7 inch, 50 cal., 4—20 mm. AA. (see *Gunnery Notes*)
Machinery:	2 sets M.A.N. 8 cycle diesels. B.H.P.: 2,400=16·5 kts.
Oil fuel:	110 tons *normal*, 126 tons *max.*
Radius:	8,850 miles at 12 kts., 4,800 at 16 kts.
Complement:	52 (normal)

General Notes

Built at the Naval Arsenal, Lisbon. Laid down in 1930, launched on 17 Mar. 1934 and completed in Apr. 1935. Pennant number: A 528. Unlike *João de Lisbon*, her sister ship, *Pedro Nunes* is not part of ten-year programme introduced in 1930. Formerly rated as a frigate or second class sloop (*aviso de segunda classe*) but now a surveying vessel in Portuguese Guinea.

Gunnery Notes

The forward 4·7 inch gun was removed in 1956.

Surveying Vessels—*continued*

2 Ex-British "Isles" Class Minesweeping Trawlers

BALDAQUA DA SILVA (ex-*Ruskholm*) **SALVADOR CORREIA** (ex*Saltarelo*)

Displacement:	545 to 560 tons *standard* (770 to 800 tons *full load*)
Dimensions:	152x27½x15 feet
Guns:	1—3 inch, 2—20 mm AA., D.C. carried
Machinery:	Triple expansion. I.H.P.: 850=12 kts.
Complement:	33 and 54, respectively

Notes

Minesweeping trawlers purchased from Great Britain in 1945 and 1947, and named after islands in the Azores. *Salvador Correia* was formerly rated as a patrol vessel (*Navio Patrulheiro*) and subsequently as a minesweeper (*caça-mines*). *Baldaque da Silva*, Oceanographical Research Vessel (*Navio oceanografico*), is painted white with yellow funnel and has no armament. She was transferred to the Board of Geographic and Research Missions to Overseas in 1956. Formerly rated as a minesweeper. Their former pennant numbers were given to the "São Roque" class. Their present pennant numbers are A 526 and A 522, respectively.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Baldaque da Silva	Goole S. B & Repain Co.	14 Aug. 1941	4 Feb. 1942	12 May 1942
Salvador Correia	Henry Robb Ltd.	12 Jan. 1940	6 Aug. 1940	19 Oct. 1940

DIVING TENDER (*Navio-apoio de mergulhadores*)



MEDUSA 1960, *Portuguese Navy, Official*

1 Ex-U.S. LSM Type

MEDUSA (ex-U.S.S. *Portunus*, *ARC*, 1 ex-U.S.S. *LSM* 275, ex-*LCT* (7) 1773)

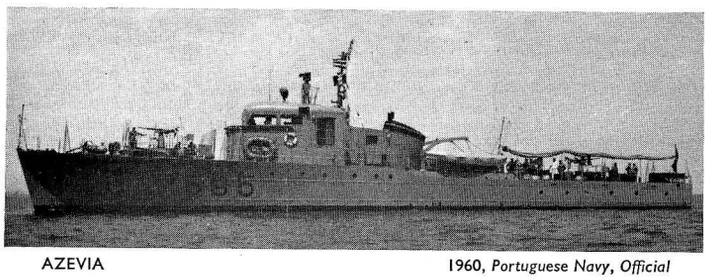
Displacement:	743 tons *standard* (1,220 tons *full board*)
Dimensions:	196½ (*pp.*), 221-⅞ (*o.a.*)×34½×10½ (*loaded*) feet
Machinery:	General Motors direct drive diesels. 2 shafts. B.H.P.: 2,800=12·2 kts. (*max.*)
Radius:	5,240 miles at 10 kts.
Complement:	44

Notes

Former United States medium landing ship of the LSM type. Built by Federal Shipbuilding and Drydock Co., Newark, New Jersey. Laid down on 1 Aug. 1944, launched on 11 Sep. 1944, and completed on 6 Oct. 1944. Converted to a cable repairing or laying ship by the U.S. Navy in 1952. Transferred to the Portuguese Navy under the Military Assistance Program in 1959. Delivered to Portugal on 16 Nov. and commissioned on 18 Nov. Pennant No.: A 5214.

FISHERY PROTECTION LAUNCHES

(*Lanchas de Fiscalização da Pesca*)



AZEVIA 1960, *Portuguese Navy, Official*

5 "Azevia" Class

AZEVIA **BICUDA** **CORVINA** **DOURADA** **ESPADILHA**

Displacement:	200 tons (250 tons *full load*)
Dimensions:	134½ (*pp.*), 139¾ (*o.a.*)×21½×7 (*max.*) feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	2 sets 7-cyl. 2-stroke Sulzer diesels in all except first pair, which have 2 sets 10-cyl. 4-stroke M.A.N. diesels. 2 shafts. B.H.P.: 2,400=17 kts.
Oil fuel:	25 tons
Radius:	3,700 miles at 11 kts., 850 miles at full speed
Complement:	37 (normal)

NotesNotes

All launched in 1941-42. Formerly differentiated by initials of names painted on bows, but now by pennant numbers as follows: *Azevia* P 595, *Bicuda* P 596, *Corvina* P 597, *Dourada* P 598, *Espadilha* P 599. A photograph of *Bicuda* appears in the 1953-54 to 1959-60 editions.

Recent Disposals

The two rescue motor launches (*lanchas de socorro*) of the ex-British type, *Canopus* and *Espiga*, were discarded in Sep. 1959 and Dec. 1959, respectively. *Deneb* and *Formalhaut* were discarded in 1957. *Altair* was scrapped in 1955.

LIGHTHOUSE TENDER (*Navio Balizador*)

ALMIRANTE SCHULTZ

Displacement:	520 tons
Dimensions:	131¼×31×10¾ feet
Machinery:	2 Sets Rateau diesels. B.H.P.: 1,950=9 kts.
Oil fuel:	21 tons
Complement:	50 (normal)

Notes

Built at Penhoet dockyard. Launched in 1929. Photograph in the 1953-54 to 1957-58 editions. Pennant number A 521.

PATROL LAUNCHES (*Lanchas de Fiscalização*)



ANTARES 1960, *courtesy Geoffrey Wood, Esq., Designer*

3 "Antares" Class. British Built

ANTARES **SIRIUS** **VEGA**

Displacement:	18 tons
Dimensions:	56 (*o.a.*), 51½ (*w.l.*)×15¼×4 (*aft.*) feet
Guns:	1—20 mm. Oerlikon quick firing AA.
Machinery:	2 Cummins diesels. 2 shafts. B.H.P.: 460=18¼ kts. (*max.*)
Radius:	750 miles at full power
Complement:	12

Notes

These three naval patrol launches were built in 1959 by James Taylor (Shipbuilders) Ltd., Shoreham, Sussex, England, and commissioned in that year. Hulls are Dobrina resin-glass fibre mouldings. Pennant numbers P 360, P 361 and P 362, respectively.

RIO MINHO

Displacement:	13·5 tons
Dimensions:	49¼×10½×2⅓ feet
Guns:	2 M.G.
Machinery:	2 Alfa Romeo engines. B.H.P.: 130=9 kts.
Complement:	8

Notes.

Built at Arsenal do Alfeite in 1955-57 for patrol of the River Minho on the Spanish border. Pennant number P 370.

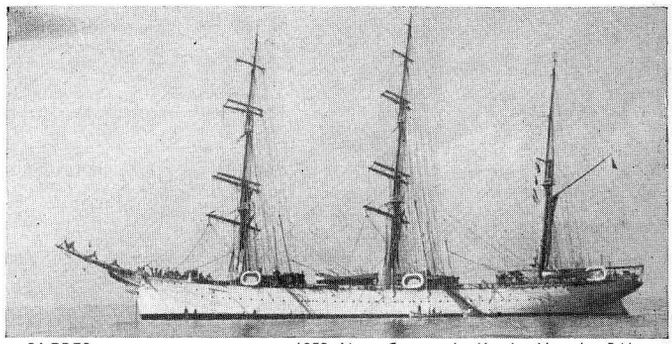
TÉTE

Displacement:	100 tons
Dimensions:	76¾×20×2¼ feet
Guns:	2—47 mm., 2 M.G.
Machinery:	Stern-wheel propulsion H.P.: 70=8 kts.
Boilers:	1 Yarrow

Notes

Built by Yarrow & Co., Ltd., Scotstoun, Glasgow. Launched in 1918. Re-launched at Chinde in 1920. Employed on Zambesi River. Formerly rated as a river gunboat (*lancha-canhoneira*) but re-rated as a patrol boat (*lancha de fiscização*) in 1960 with the pennant number P 371.

TRAINING SHIP (*Navio-Escola*)



SAGRES 1953, *Lieut. Commander Vosgien Noronha, P.N.*

SAGRES (*ex-Flores*, *ex-Max*, *ex-Rickmer Rickmers*)

Displacement:	3,067 tons (3,176 tons *full load*)
Dimensions:	263½×40½×19 feet
Guns:	4—57 mm.
Machinery:	2 Krupp diesels. 2 shafts. B.H.P.: 700=8 kts.
Complement:	209 (normal)+196 personnel under training

Notes

Former German sailing vessel. Built at Bremerhaven. Launched in 1896. Captured during the First World War. Re-rigged as a barque and adapted as a naval training ship during 1924-27. Auxiliary motors were fitted in 1931. Pennant No.: A 520.

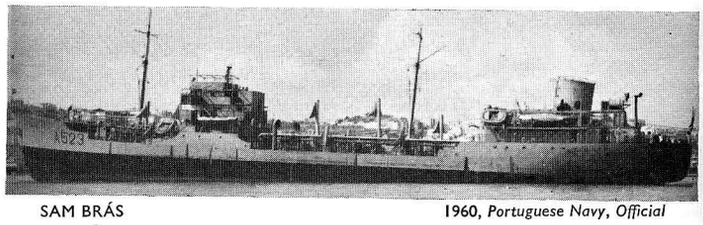
FLEET OILERS (*Navios Petroleiros*)

1 New Construction

Displacement:	14,200 tons
Measurement:	9,500 tons *gross*, 9,000 tons *deadweight*
Dimensions:	452¾ (*pp.*), 479 (*o.a.*)×59¾×26½ (*loaded*) feet
Machinery:	1 Pametrada geared steam turbine. S.H.P.: 9,500=17 kts.
Radius:	6,000 miles at 15 kts.

Notes

Under construction at Estaleiros Navais de Viana do Castelo. To be completed in 1962.



SAM BRÁS 1960, *Portuguese Navy, Official*

SAM BRÁS

Measurement:	7,000 tons *gross*, 3,500 tons *deadweight*
Dimensions:	336½ (*pp.*), 356¾ (*o.a.*)×50¾×18 (*max.*) feet
Guns:	1—3·9 inch AA.
Machinery:	B. & W. 2-stroke diesel. B.H.P.: 11,500=12 kts
Oil fuel:	400 tons
Radius:	6,000 miles at 12 kts.
Complement:	70 (normal)

Notes

Built at the Aesenal do Alfeite. Laid down in 1939. Launched on 17 Mar. 1942. Pennant No.: A 523.

ROUMANIA

DESTROYERS (*Distrugătoáre*)

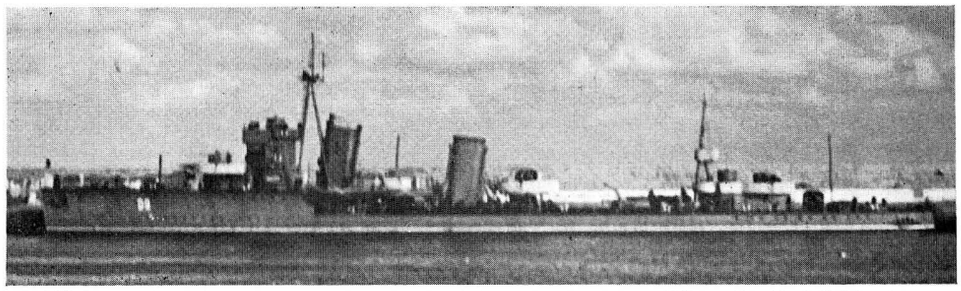
2 Thornycroft Type

D 9 (ex-*D 21*, ex-*Letuchi*, ex-*Regina Maria*)

D 10 (ex-*D 22*, ex-*Likhoi*, ex-*Regele Ferdinand*)

Name:	*D 9*	*D 10*
Pennant No.:	*D 9*	*D 10*
Builders:	Pattison, Naples	Pattison, Naples
Launched:	2 Mar. 1929	2 Dec. 1928

Displacement:	1,400 tons *standard* (1,850 tons *full load*)
Dimensions:	334½ × 31½ × 11½ feet
Guns (Bofors):	5—4·7 inch, 50 cal., 1—3 inch AA., 2—40 mm AA., 3 M.G.
Tubes:	6—21 inch (tripled)
A/S weapons:	4 D.C.T.
Mines:	50
Machinery:	Parsons geared turbines by Stab. Tecnico Triestino. 2 shafts. S.H.P.: 42,000=38 kts.
Boilers:	4 water tub
Oil fuel:	400 tons
Radius:	3,000 miles at 10 kts.
Complement:	212



D 9 — 1960, *courtesy Mr. P. H. Silverstone*

Notes

Built at Naples to the design of John I. Thornycroft & Co. Ltd., Woolston, Southampton. Returned to Roumania in 1953 by Russia by whom they were captured from the Roumanian Navy in 1944. It is reported that they may be re-armed.

Cruiser Notes

The old light cruiser *Kertch* (ex-*Stalingrad*, ex-Z 15, ex-*Emanuele Filiberto Duca D'Aosta*) is reported to have been lent or leased by Russia to the Roumanian Navy. For full particulars, photograph, and plan and elevation drawing of this ship, see Russian section, 1959-60 edition.

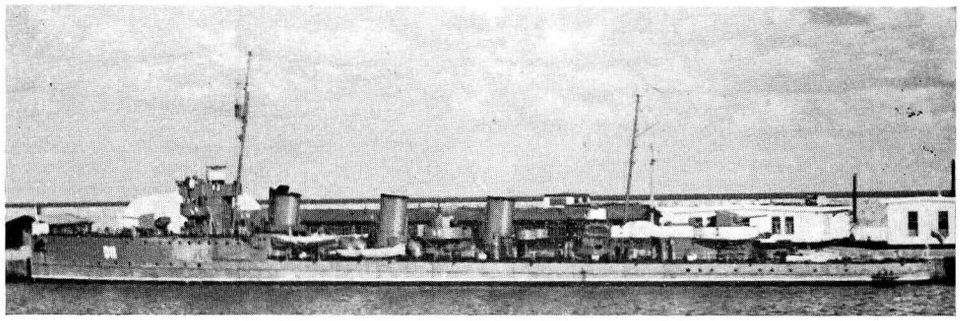
2 Italian Type

MĂRĂŞTI (ex-Italian *Sparviero*)

MĂRĂŞEŞTI (ex-Italian *Nibbio*)

Name:	*Mărăşti*	*Mărăşeşti*
Pennant No.:	D 11	D 12
Builders:	Pattison, Naples	Pattison, Naples
Launched:	1919	1918

Displacement:	1,390 tons *standard* (1,723 tons *full load*)
Dimensions:	309½ (*pp.*) × 31 × 11½ feet
Guns:	4—4·7 inch, 2—37 mm. AA., 2 M.G.
Tubes:	4—17·7 inch in twin deck mountings
Machinery:	2 Tosi turbines. 2 shafts. Designed S.H.P.: 45,000=34 kts.
Boilers:	5 Thornycroft oil-burning
Oil fuel:	260 tons
Radius:	1,700 miles at 15 kts., 380 miles a full speed
Complement:	139



MARASTI — 1960, *courtesy Mr. P. H. Silverstone*

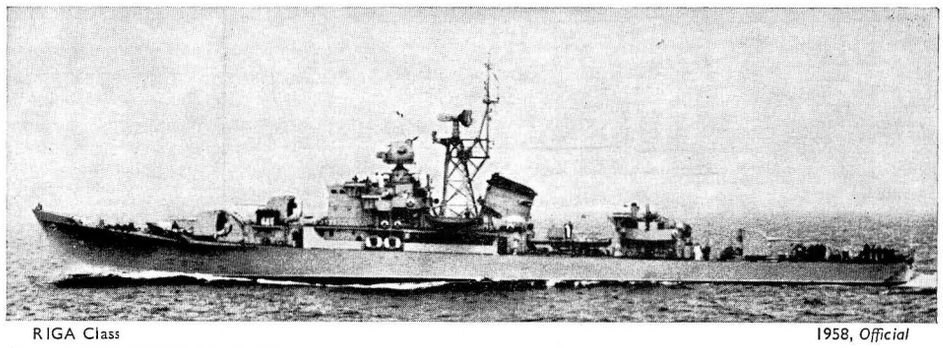
Notes

Ordered for the Roumanian Navy in 1913, and requisitioned by Italy in 1915. They were re-purchased by Roumania in 1920, and renamed after actions fought in 1917. Refitted and rearmed at Galatz and Naples in 1925-26. Equipped for minelaying.

FRIGATES

6 Ex-Russian "Riga" Class

Displacement:	950 tons *standard* (1,350 tons *full load*)
Dimensions:	278½ × 29½ × 10 feet
Guns:	3—3·9 inch AA., 8—37 mm. AA.
Tubes:	3—21 inch
A/S weapons:	4 D.C.T.
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 24,000=28 kts.
Oil fuel:	2
Boilers:	300 tons
Complement:	190



RIGA Class — 1958, *Official*

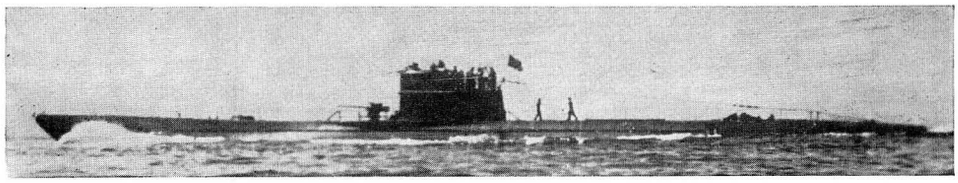
Notes

Former Russian escort vessels of the "Riga" class built in 1955 and taken over by Roumania in 1957-58.

SUBMARINES

4 Ex-Russian Type

Displacement:	650 tons
Dimensions:	180 × 21 × 14½ feet
Guns:	2—25 mm.
Tubes:	4—21 inch
Machinery:	Diesels. B.H.P.: 3,000=18 kts. (*surface*) Electric motors. H.P.: 2,500=16 kts. (*submerged*)
Radius:	7,000 miles
Complement:	40



MARSUINAL — *Added 1953, courtesy M. J. Meister*

Notes

Former Russian submarines variously reported to be of the "Shch" class and the improved "Shch" or "Q" class. It is also reported that four more are being delivered, making eight in all.

MARSUINUL (S2)

Builders:	Galatz Shipbuilding Yard
Laid down:	1938
Launched:	4 May 1941
Completed:	1942

Displacement:	620 tons (*surface*)
Dimensions:	190¼ × 18½ × 11¾ fee:
Guns:	1—4·1 inch (105 mm.), 1—37 mm. AA.
Tubes:	6—21 inch (4 bow, 2 stern), 12 torpedoes carried
Machinery:	Diesels. 2 shafts. B.H.P.: 1,840=16 kts. (*surface*). Electric motors=9 kts. (*submerged*)

Notes

It is reported that this vessel may be disposed of in the near future. Both *Marsuinal* and *Requinul* are Roumanian built to German plans.

REQUINUL (S 1)

Builders:	Galatz Shipbuilding Yard
Laid down:	1938
Launched:	22 May 1941
Completed:	1942

Displacement:	650 tons (*surface*)
Dimensions:	223 × 19½ × 11¾ feet
Guns:	1—20 mm. AA.
Tubes:	4—21 inch (bow)
Mines:	40
Machinery:	Diesels. 2 shafts. B.H.P.: 1,840=17 kts. (*surface*). Electric motors=9 kts. (*submerged*)

Notes

The submarine *Delfinul*, which received considerable damage during the war, and was of doubtful efficiency, was discarded in 1957.

Coastal Submarines

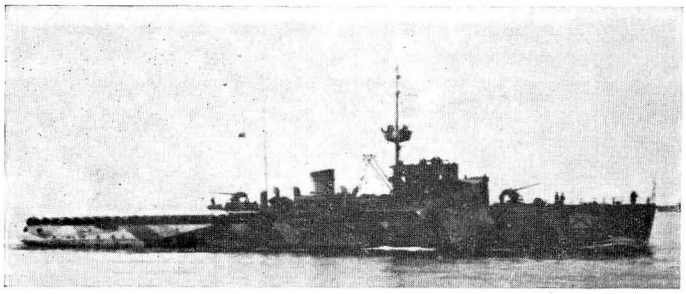
4 Ex-Russian Type

Displacement:	350 tons (*surface*), 420 tons (*full load*)
Dimensions:	167¾ × 16 × 12 feet
Guns:	1—45 mm. AA.
Tubes:	2—21 inch
Machinery:	Diesels. B.H.P.: 800=13 kts. *surface*). Electric motors. H P.: 400=8 kts. (*submerged*)
Oil fuel:	18 tons
Radius:	3,400 miles at 8 kts. (*surface*). 90 miles at 3 kts. (*submerged*)
Complement:	20

Notes

Former Russian coastal submarines built in 1940 and taken over by Roumania in 1957.

MINELAYER (*Puitoare de Mine*)



AMIRAL MURGESCU *Erich Gröner*

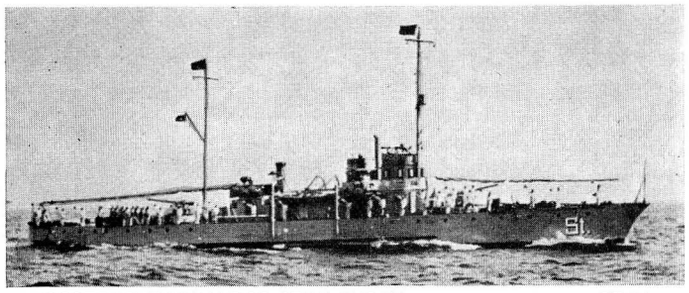
AMIRAL MURGESCU

Displacement:	812 tons *standard*
Dimensions:	252½ (*o.a.*) × 29½ × 8½ (*mean*) feet
Guns:	2—4 inch D.P., 2—37 mm. AA.
A/S weapons:	2 D.C.T.
Mines:	135
Machinery:	2 Krupp diesels. B.H.P.: 2,100=16 kts.
Radius:	3,400 miles at 12 kts.
Complement:	78

Notes

Built by Galatz Shipbuilding Yard. Laid down on 1 Aug. 1938. Launched on 14 June 1939. Completed in 1941.

PATROL VESSELS



LOCOTENENT-COMANDOR STIHI EUGEN *Official*

2 Rated as Gunboats (*Canoniere*)

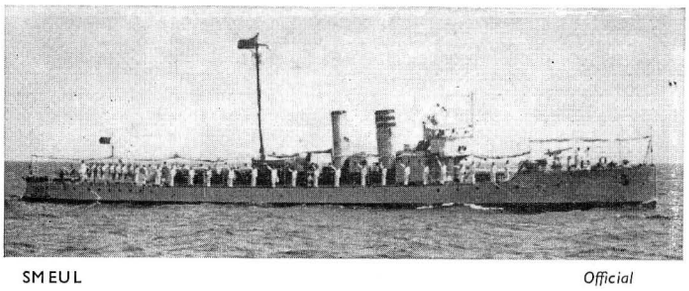
LOCOTENENT-COMANDOR STIHI EUGEN (ex-French *Friponne*)
SUBLOCOTENENT GHICULESCU (ex-French *Mignonne*)

Displacement:	443 and 344 tons respectively
Dimensions:	199¾ × 22½ × 9¼ and 7¾ feet respectively
Guns:	2—3·9 inch, 2 M.G.
Machinery:	2 sets of Sulzer diesel motors. B.H.P.: 900=15 kts
Oil fuel:	30 tons
Radius:	3,000 miles at 10 kts., 1,600 miles at 15 kts.
Complement:	50

Notes

Purchased from the French Navy on 9 Jan. 1920. Entered service on 15 Jan. 1920. They are differentiated by coloured rings around crow's-nest. Names are those of naval officers killed in action, 1916-18.

Name:	*Locotenent-Comandor Stihi Eugen*	*Sublocotenent Ghiculescu*
Pennant No.:	D 61	D 62
Builders:	Lorient Dockyard	Brest Dockyard
Launched:	1916	1917



SMEUL *Official*

2 Ex-Torpedo Boats (*Torpiloare*)

SBORUL (ex-*T* 81) **SMEUL** (ex-*T* 83)

Displacement:	258 tons
Dimensions:	189¾ × 19 × 5 feet
Guns:	2—11 pdr., 2 M.G. (*Smeul*)
Torpedo tubes:	4—17·7 inch (*Sboral*)
Machinery:	Turbines. 2 shafts. S.H.P.: 5,000=24 kts. (now 19 kts.)
Boilers:	2 Yarrow
Fuel:	50 tons

Notes

Ex-Austrian torpedo boats. *Sborul* means Flight. *Smeul* means Dragon. Appearance of *Sborul* is similar to that of *Smeul* but she has one funnel.

Name:	*Sborul*	*Smeul*
Pennant No.:	E 2	E 1
Builders:	Stab. Tecnico Triestino, Trieste	Ganz-Danubius Co., Porto Re, Fiume
Launched:	1913	1914

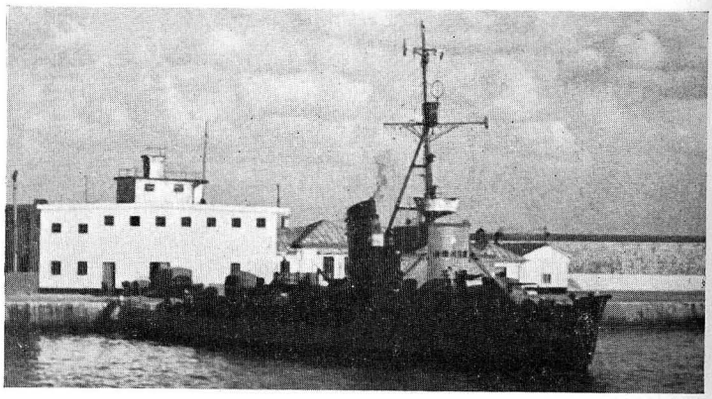
General Notes

The fast patrol boats No. 10 (ex-*S* 151), No. 11 (ex-*S* 152), No. 12 (ex-*S* 153) and No. 13 (ex-*S* 154), all ex-German craft, are reported to have been seized by the Russians.

There are some launches on the Danube and some patrol boats in the Black Sea. Reports mention three submarine chasers or patrol boats and two surveying vessels or patrol craft.

Auxiliary and service craft are reported to include two motor torpedo boats, 15 patrol boats, a training ship, three landing ships (one LST and two LSM), ten landing craft (2 LCI and 8 LCT), ten transports and three oilers.

MINESWEEPERS



D 816 1960, *courtesy Mr. P. H. Silverstone*

4 Ex-German "M 40" Type

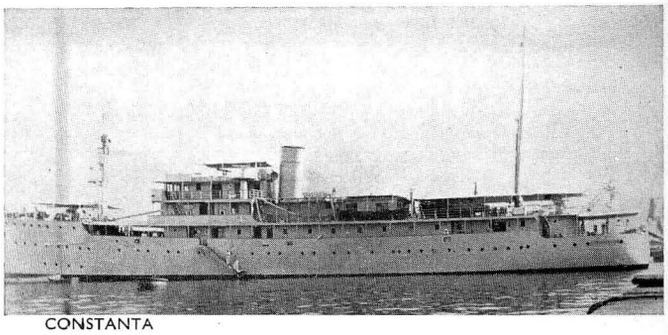
D 813 **D 814** **D 815** **D 816**

Displacement:	543 tons *standard* (775 tons *full load*)
Dimensions:	203½ × 28 × 9¼ feet
Guns:	6—37 mm. AA. (twin)
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=17 kts.
Boilers:	2 three-drum water tube
Fuel:	152 tons coal
Radius:	4,000 miles at 10 kts.
Complement:	80

Notes

Former German "M 40" type coal-burning minesweepers. Built in 1943. Taken over by Russia at the end of the Second World War. Transferred to Roumania in 1956-1957. The number of these vessels reported to have been acquired varies from four to fourteen, but photographs of only D 814, D 815 and D 816 (see above) have reached this annual.

SUBMARINE DEPOT SHIP (*Navă Bază*)



CONSTANTA

CONSTANTA

Displacement:	1,329 tons *standard* (2,300 tons *full load*)
Dimensions:	255¾ × 37 × 13½ feet
Guns:	2—4 inch, 2—40 mm.
Machinery:	2 sets Diesels. 2 shafts. B.H.P.: 1,000=13 kts.
Radius:	12,000 miles

Notes

Built by Quarnaro Yard, Fiume. Laid down on 15 Aug. 1927. Launched on 8 Nov. 1928. Completed in 1931. Fitted with engineering and torpedo shops; bakery; torpedo loading room; salvage, diving and submarine signalling apparatus.

SAIL TRAINING SHIP (*Navă Şcoăld*)

MIRCEA

Displacement:	1,604 tons
Dimensions:	239½ (*o.a.*) 267⅓ (*with bowsprit*) × 39⅓ × 16½ feet
Sail area:	18,830 sq ft.
Machinery:	Auxiliary M.A.N. 6-cylinder Diesel. B.H.P.: 500=9·5 kts
Complement:	83 + 140 midshipmen for training

Notes

Built by Blohm & Voss, Hamburg. Laid down on 30 Apr. 1938. Launched on 22 Sep. 1938. Completed on 29 Mar. 1939 (delivered).

YACHTS (*Jachturi*)

LUCEAFARUL (*ex-Nahlin*)

Displacement:	2,050 tons
Dimensions:	250 (*w.l.*), 296 (*o.a.*) × 36 × — feet
Machinery:	4 Brown-Curtis geared turbines. 2 shafts. S.H.P.: 4,000=17·5 kts.
Boilers:	2 Yarrow. Oil fuel

Notes

Former Royal Yacht. Designed by G. L. Watson & Co. Built by John Brown & Co. Ltd., Clydebank, Scotland. Launched in 1930. Purchased in 1937. Subsequently used as a training ship.

TAIFUN

Measurement:	34 tons (*Thames* measurement)
Dimensions:	54 × 12½ × 3 feet
Machinery:	2 petrol motors, 2 shafts

Notes

Built by J. Samuel White & Co. Ltd., Cowes, Isle of Wight, England. Launched in 1938. Of wooden construction.

SPAIN

Administration

Minister of Marine:
Admiral Excmo. Sr. Don Felipe Abarzuza y Oliva

Chief of Naval Staff:
Admiral Excmo. Sr. Don Santiago Antón Rozas

Acting 2nd Chief of Naval Staff:
Rear-Admiral Excmo. Sr. Son Alfonso Colomina Bot

Commander-in-Chief of the Fleet:
Vice-Admiral Excmo. Sr. Don Pascual Cervera Cervera

Commander-in-Chief, Cadiz:
Admiral Excmo Sr. Don Jerónimo Bustamante de la Rocha

Commander-in-Chief, Ferrol:
Admiral Excmo Sr. Don Pedro Fernández Martin

Commander-in-Chief, Cartagena:
Admiral Excmo Sr. Don Javier Mendizabal Gortazar

Naval Attaché in London:
Captain Sr. Don Manuel Aldereguia Amor

Navy Estimates

1954-55: 1,453,326,174.65 pesetas.
1955-56: 2,194,485,624.88 pesetas.
1956-57: 2,400,000,000.00 pesetas.
1957-58: 2,539,719,085.66 pesetas.

New Programme

It is proposed to build 4 destroyers, 4 escort type ships, and 12 patrol type vessels under a new construction programme.

Some 30 warships, including 4 destroyers, are being modernised with funds provided by the United States under the Mutual Defense Assistance Program.

Personnel

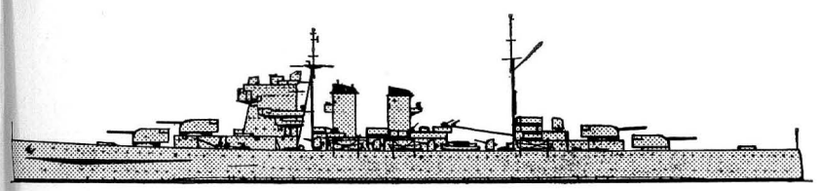
1960: 36,000 officers and ratings, including marines

Mercantile Marine

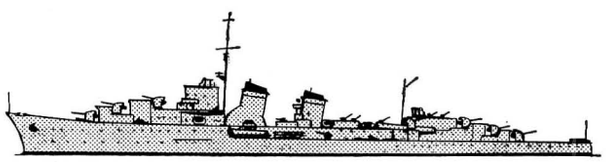
Lloyd's Register of Shipping:
1,394 vessels of 1,711,818 tons *gross*

Silhouettes

Scale: 150 ft. = 1 inch.



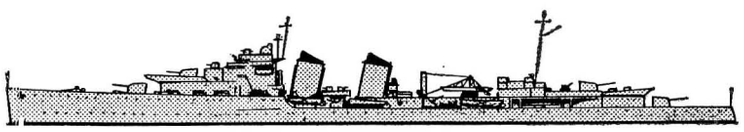
CANARIAS



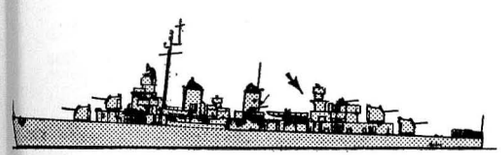
MENDEZ NUÑEZ



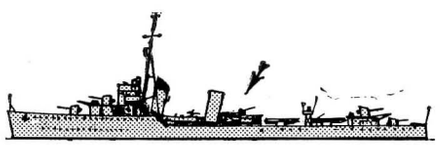
ALMIRANTE CERVERA



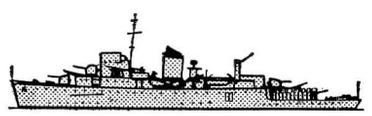
GALICIA, MIGUEL DE CERVANTES



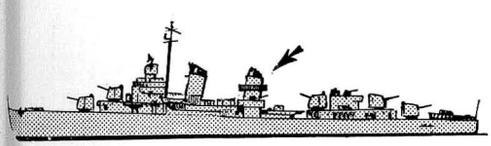
ALMIRANTE VALDES



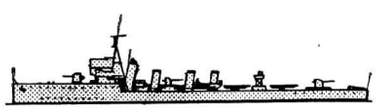
ALMIRANTE ANTEQUERA *Group*



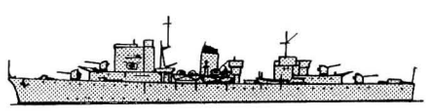
EOLO, TRITON



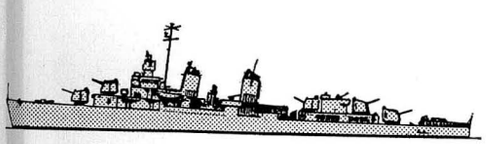
ALMIRANTE FERRANDIZ



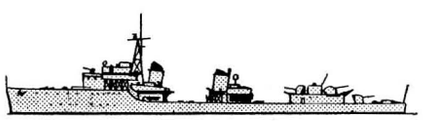
LAZAGA



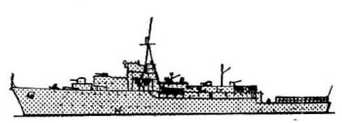
JUPITER *Class*



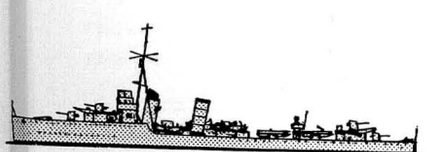
LEPANTO



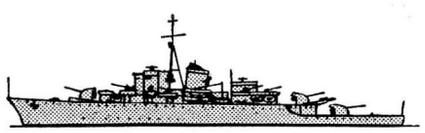
AUDAZ *Class*



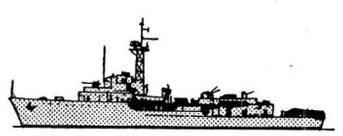
ATREVIDA *Class*



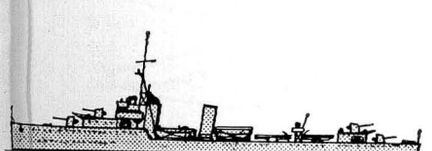
ALAVA, LINIERS



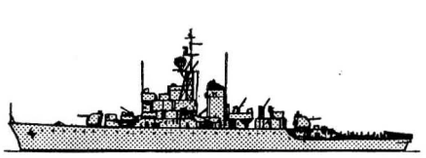
PIZARRO *Class*



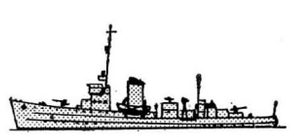
DIANA



CHURRUCA *Group*

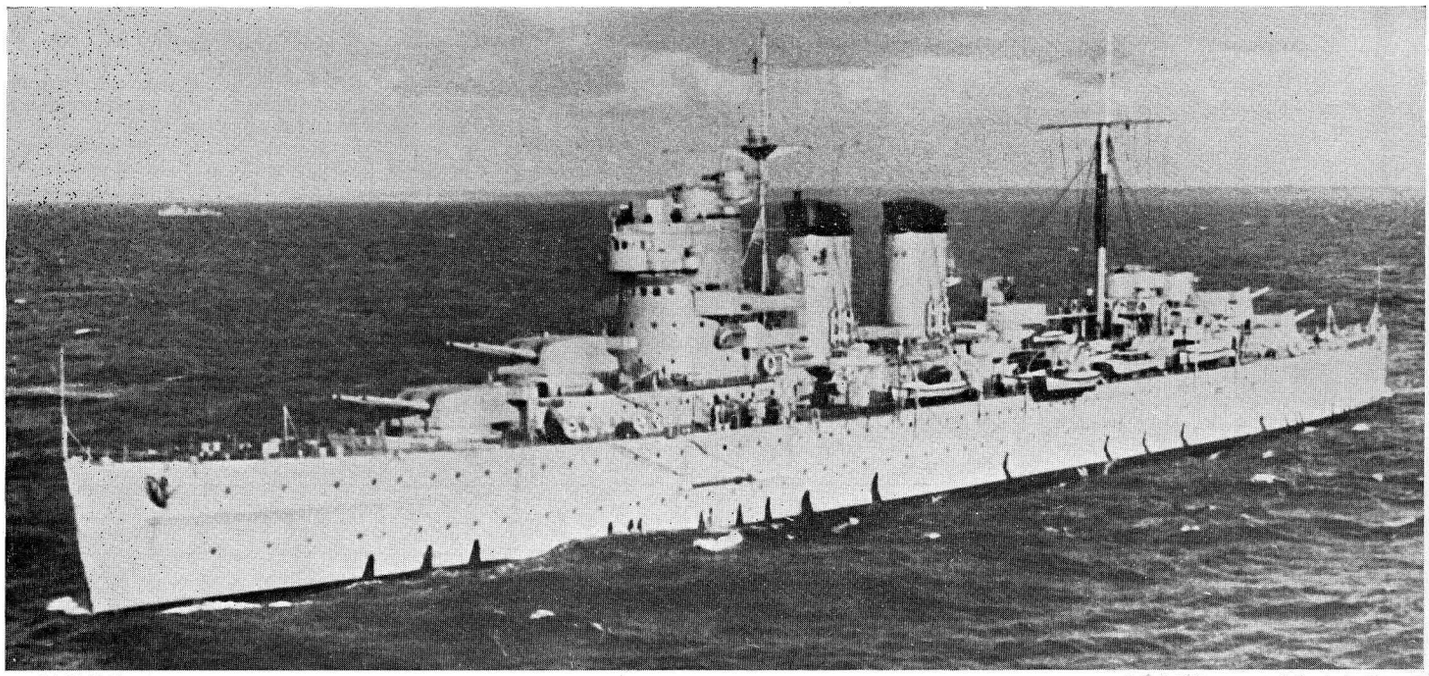


LEGASPI



BIDASOA *Class*

HEAVY CRUISER



CANARIAS

Added 1957, *courtesy Señor A. Aguilera*

(Rated as *Crucero de Primera Clase*)

CANARIAS

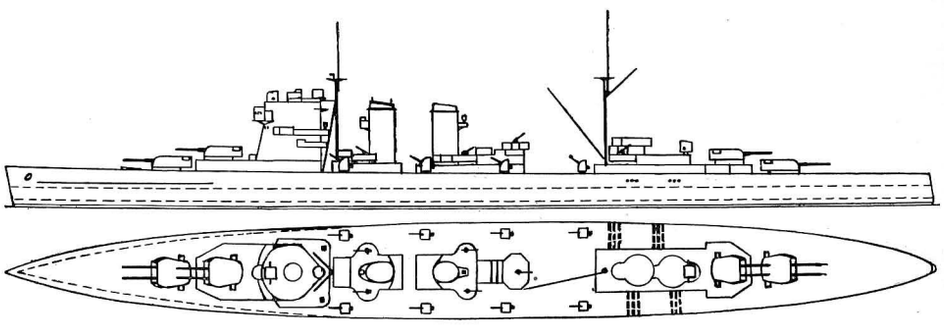
Builders:	Sociedad Española de Construccion Naval, Ferrol
Laid down:	15 Aug. 1928
Launched:	28 May 1931
Completed:	Sep 1936
Displacement:	10,670 tons *standard* (12,230 tons *full load*)
Dimensions:	Length: 636 feet. Beam: 64 feet. Draught: 17½ feet (*mean*)
Guns:	8—8 inch, 50 cal., 8—4·7 inch AA., 45 cal., 12—37 mm. AA., 3—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	1½"—2" side, 1" turrets, 4" magazines
Machinery:	Parsons geared turbines. 2 shafts. Designed S.H.P.: 90,000=33 kts.
Boilers:	8 Yarrow
Oil fuel:	2,794 tons
Radius:	8,000 miles at 15 kts
Complement:	1,042

General Notes

This ship was designed by the late Sir Philip Watts on the basic pattern of the contemporary British heavy cruisers of the later " County " classes. She was named after the Canary Islands. From completion until 1952 this ship had trunked funnels, but on completion of her refit early in 1953 she emerged with two separate funnels, this being a reversion to the original design which had never been carried out.

Torpedo Notes

She is no longer equipped with the 12—21 inch torpedo tubes in triple mountings which she formerly carried, it was officially stated in 1960.



Gunnery Notes

The maximum elevation of the 8-inch guns is 70 degrees.

Class Notes

Sister ship *Baleares* was torpedoed and sunk on 6 Mar. 1938 during the Spanish Civil War.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

CRUISERS

3 " Galicia " Class

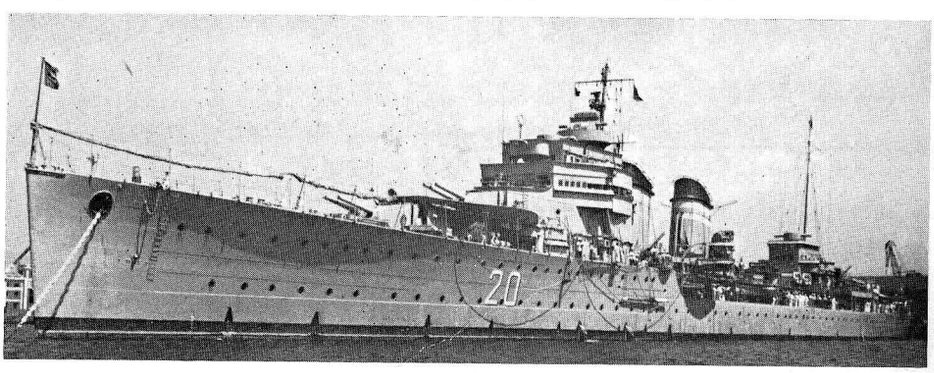
GALICIA (*ex-Libertad, ex-Princ pe Alfonso*)

MIGUEL DE CERVANTES

Displacement:	8,250 tons *standard* (9,900 tons *full load*)
Dimensions:	Length: 575 (*pp.*), 579½ (*o.a.*) feet. Beam: 54 feet. Draught: 16½ (*mean* 20½ (*deep load*) feet
Guns:	8—6 inch, 50 cal., 8—37 mm. AA., 20—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	3" side (amidships), 2" side (forward), 1½" side (aft), 1" deck
Machinery:	Parsons geared turbines. 4 shafts. Designed S.H.P.: 80,000=31·6 kts.
Boilers:	8 Yarrow (large tube)
Oil fuel:	1,650 tons, 1,700 tons *max.*
Radius:	5,000 miles at 15 kts., 1,200 miles at *full power*
Complement:	564 (peace), 725 (war)

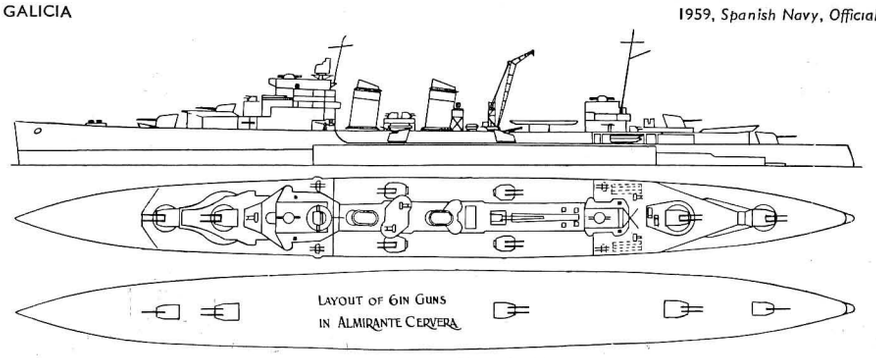
ALMIRANTE CERVERA

Displacement:	7,976 tons *standard* (9,662 tons *full load*).
Dimensions:	Length: 575 (*pp.*), 579½ (*o.a.*) feet Beam: 54 feet. Draught: 16½ (*mean*), 20½ (*max.*) feet
Guns:	8—6 inch, 50 cal. (3 twin, 2 single);. 16—37 mm. AA.; 4—20 mm. AA.
Tubes:	Removed (see *Torpedo Notes*)
Armour:	3" side (amidships), 2" side (forward), 1½" side (aft), 1" deck
Machinery:	Parsons geared turbines. 4 shafts. S.H.P.: 80,000=34 kts.
Boilers:	8 Yarrow.
Oil fuel:	1,686 tons (1,709 tons *max.*)
Radius:	5,000 miles at 15 kts.
Complement:	603 (peace), 720 (war).



GALICIA

1959, *Spanish Navy, Official*

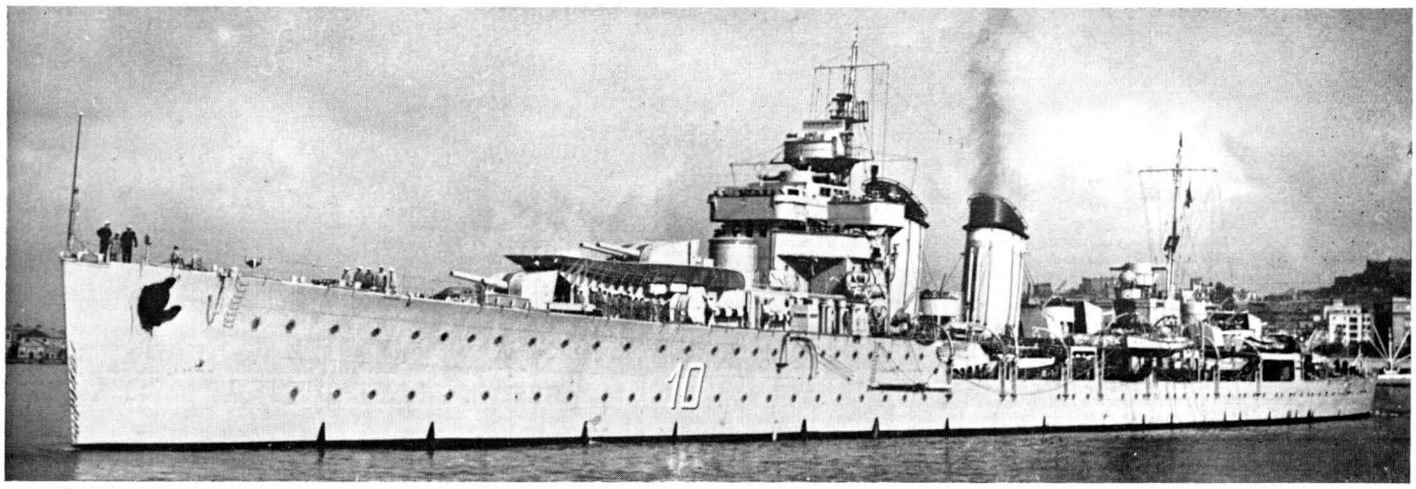


Notes to Drawing

Port elevation (composite representation of all three ships).

Plan of *Galicia* and *Miguel Cervantes* (upper plan)
Plan of *Almirante Cervera* (lower plan)
Scale: 128 feet=1 inch.

Cruisers—*continued*



ALMIRANTE CERVERA

1959, *courtesy Señor A. Aguilera*

"Galicia" Class—*continued*

General Notes

All three ships were constructed by the Sociedad Espanola de Construccion Naval at Ferrol Dockyard under the Navy Law of 17 Feb. 1915. Their cost was estimated at about 8,122 pesetas per ton. Designed under direction of the late Sir Philip Watts, K.C.B., for the Spanish Government. All reconstructed and modernised during 1940-46. Their armament was modified in 1957.

Gunnery Notes

Almirante Cervera has single 6 inch guns in "A" and "Y" positions, and twin 6 inch guns in "B", "Q" and "X" positions. The four 4·1 inch AA. guns have been removed, and eight 37 mm. AA. guns mounted in their place. "*Galicia*" and *Miguel de Cervantes* have twin 6-inch guns in "A", "B", "X" and "Y" positions. The eight 3·5 inch guns have been removed.

Torpedo Notes

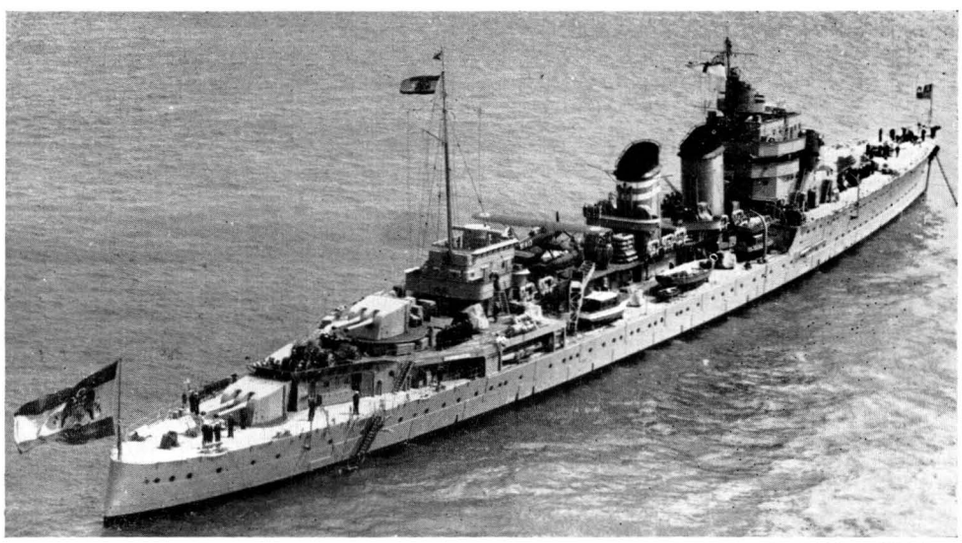
These ships are no longer equipped with torpedo tubes, which were in revolving triple mounts on the upper deck, 12—21 inch in *Almirante Cervera* and 6—21 inch in *Galicia* and *Miguel de Cervantes*, it was officially stated in 1960.

Engineering Notes

On trials *Galicia* developed 83,000 S.H.P. and attained a speed of 34·7 kts.

No.	*Name*	*Builders*	*Engineers*
10	*Almirante Cervera*	Ferrol D.Y.	S.E.C.N.
20	*Galicia*		
	Miguel de Cervantes		

Name	*Laid down*	*Launched*	*Completed*
Almirante Cervera	25 Nov. 22	16 Oct. 25	May 27
Galicia	24 Nov. 22	23 Jan. 25	Sep. 27
Miguel de Cervantes	27 Aug 26	19 May 29	Feb. 30



MIGUEL DE CERVANTES

Added **1955**, *Spanish Navy, Official*

Appearance Notes

Galicia now mounts a radar scanner just abaft the main director on the bridge on a small lattice tower. The ships now have recognition numbers painted on the hull forward, see photos of *Almirante Cervera* and *Galicia*.

Nomenclature Notes

Respective names are those of the Commander-in-Chief of the Spanish fleet in the West Indies during the war with the U.S.A. in 1898, Admiral Pascal Cervera y Topete; the north-western province of Spain: and the author of *Don Quixote*.

ANTI-AIRCRAFT CRUISER

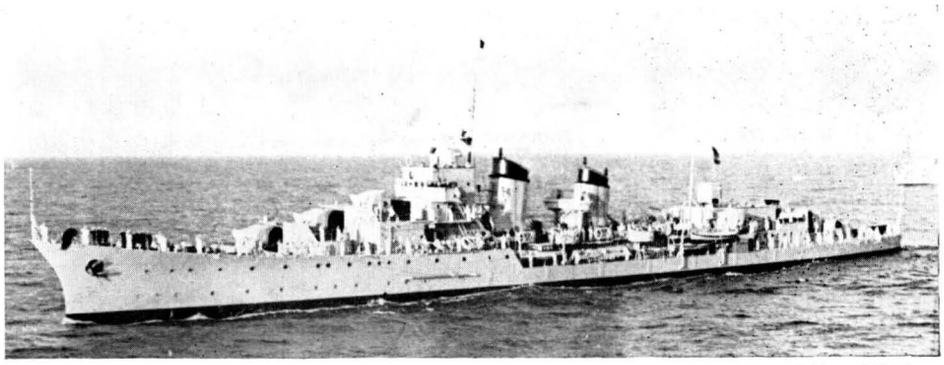
MENDEZ NUÑEZ

Builders:	Ferrol Dockyard
Engineers:	Sociedad Española de Construccion Naval
Laid down:	1 Feb. 1917
Launched:	27 July 1922
Completed:	30 Aug. 1925

Displacement:	4,680 tons *standard* (6,312 tons *full load*)
Dimensions:	Length: 440 (*pp.*), 462 (*o.a.*) feet. Beam: 46 feet. Draught: 14⅓ (*mean*), 19 (*max.*) feet
Guns:	7—4·7 inch AA., 10—37 mm. AA., 8—20 mm. AA
Tubes:	6—21 inch (tripled)
Armour:	1"-¾" side (amidships), 1"-½" side (ends), 1" deck
Machinery:	Parsons geared turbines. 4 shafts Designed H.P.: 45,000=29 kts.
Boilers:	12 Yarrow (6 oil-burning, 6 mixed-firing)
Fuel:	806 tons coal; 727 tons oil
Radius:	5,000 miles at 13 kts.
Complement:	370

General Notes

Rebuilt and rearmed during 1944-47, her funnels being reduced in number from 3 to 2 and her appearance entirely altered.



MENDEZ NUÑEZ

Spanish Navy, Official

Historical Notes

Named after Don Casto Mendez Nuñez, Commander-in-Chief of the Spanish Fleet in the Pacific in 1866. He bombarded Valparaiso on 31 Mar. of that year, but was repulsed with a wound at Callao on 2 May.

Engineering Notes

On trials this ship attained a speed of 29·28 kts. with 43,776 S.H.P

Recent Disposal

The light cruiser *Navarra* has been removed from the effective list.

DESTROYERS (*Destructores*)

4 New Construction

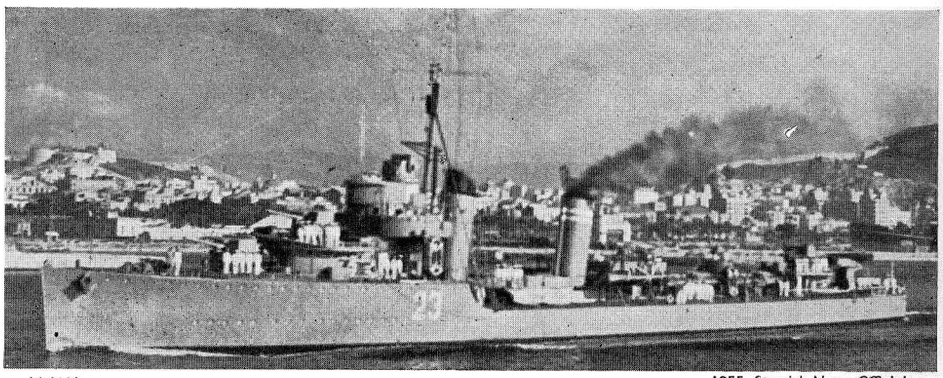
Notes
It is proposed to build four new destroyers under the new naval construction programme.

2 "Alava" Class

ALAVA **LINIERS**

Displacement:	1,650 tons *standard* (2,170 tons *full load*)
Dimensions:	333 × 31¾ × 15 (*mean*) feet
Guns:	6—3 inch AA. (three twin, Mk. 34); 3—40 mm. 70 cal. AA.
Tubes:	Removed (see *Torpedo Notes*)
A/S weapons:	2 Hedgehogs, 8 D.C. Mortars, 2 D.C. racks, 2 side launching torpedo racks
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 44,000=36 kts.
Boilers:	4 Yarrow, of 3-drum type
Oil fuel:	480 tons
Radius:	4,200 miles at 15 kts
Complement:	200

General Notes
These two destroyers, a development of the *Churruca* design were originally ordered in 1936, but construction was held up by the Civil War. After being resumed, it was again suspended in 1940, but restarted once more at Cartagena in 1944.



ALAVA — 1955, *Spanish Navy, Official*

Gunnery Notes
Before modernisation these ships mounted 4—4·7 inch, 6—37 mm. AA. and 3—20 mm. AA. guns.

Torpedo Notes
This class have no torpedo tubes since they were modernised, it was officially stated in 1960. They formerly carried 6—21 inch (tripled), but now have torpedo racks instead of tubes.

Name:	*Alava*	*Liniers*
Pennant Nos.:	23	21
Builders:	Cartagena	Cartagena
Laid down:	21 Dec. 1944	1 Jan. 1945
Launched:	19 June 1947	1 May 1946
Completed:	21 Dec. 1950	27 Jan 1951

3 Ex-U.S. "Fletcher" Class

ALMIRANTE FERRANDIZ (*ex-U.S.S. David W. Taylor, DD* 551)
ALMIRANTE VALDÉS (ex-U.S.S. *Converse, DD* 509)
LEPANTO (*ex-U.S.S. Capps, DD* 550)

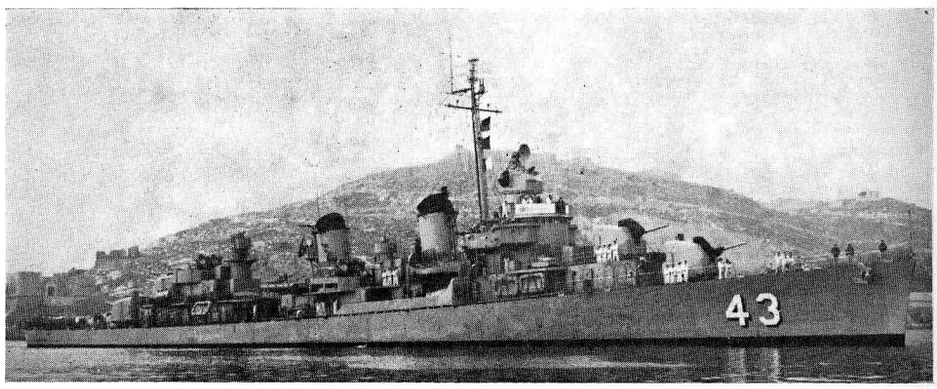
Displacement:	2,080 tons *standard* (2,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12¼ (*mean*), 18 (*max.*) feet
Guns:	*Almirante Ferrandiz, Lepanto*, 5—5 inch, 38 cal.; 6—40 mm. Bofors AA.; 12—20 mm. Oerlikon AA. (6—20 mm. in *A.F.*) *Almirante Valdes:* 4—5 inch, 38 cal. (single mountings); 6—3 inch, 50 cal. (three twin mountings), as rearmed
Tubes:	5—21 inch (quintupled)
A/S weapons:	2 Hedgehogs, 6 D.C.T., 2 D.C. racks, 2 side launching torpedo racks
Machinery:	General Electric geared turbines. shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350 (war)

General Notes
Former United States fleet destroyers. *Capps* and *David W. Taylor* were the first units of the "Fletcher" class to be transferred to a foreign government. Loaned to Spain under the Mutual Defense Assistance Program for a period of five years. Reconditioned at San Francisco and turned over to the Spanish Navy at San Francisco, California, on 15 May 1957. Sailed for Spain on 1 July 1957. *Converse* was transferred to the Spanish Navy at Philadelphia on 1 July 1959.

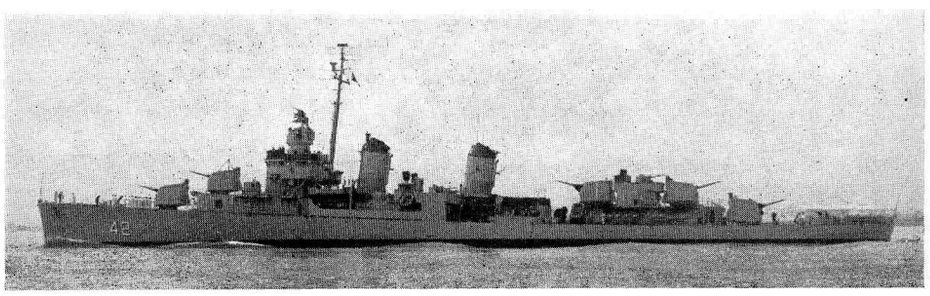
Photograph Notes
Port bow oblique aerial view of *Almirante Ferrandiz* in the 1958-59 and 1959-60 editions.

No.	*Name*	*Builders*
41	*Almirante Ferrandiz*	Gulf S.B. Corpn., Chickasaw, Ala.
43	*Almirante Valdés*	Bath Iron Works Corpn., Maine.
42	*Lepanto*	Gulf S.B. Corpn., Chickasaw, Ala.

Name	*Laid down*	*Launched*	*Completed*
Almirante Ferrandiz	12 June '41	4 July '42	18 Sep. '43
Almirante Valdés	23 Feb. '42	30 Aug. '42	8 June '43
Lepanto	12 June '41	31 May '42	23 June '43



ALMIRANTE VALDÉS (as re-armed) — 1960, *courtesy Señor A. Aguilera*



LEPANTO — 1958, *courtesy Señor A. Aguilera*

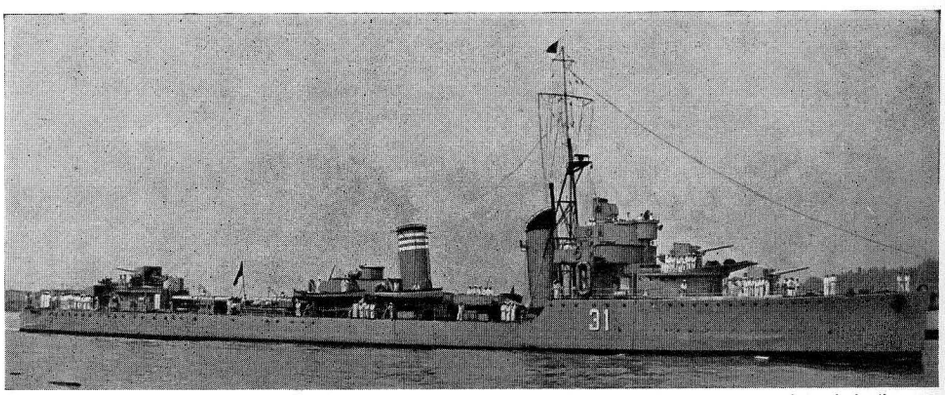
5 "Almirante Antequera" Class

("Churruca" Group 2)

ALMIRANTE ANTEQUERA **GRAVINA**
ALMIRANTE MIRANDA **ULLOA**
ESCAÑO

Displacement:	1,676 tons *standard* (2,175 tons *full load*)
Dimensions:	320 (*pp.*), 333 (*o.a.*) × 31¾ × 17 (*max.*) feet
Guns:	4—4·7 inch, 1—3 inch and 4—37 mm., 2—20 mm. AA.
A/S weapons:	4 D.C.T.
Tubes:	6—21 inch (tripled)
Machinery:	2 sets Parsons geared turbines shafts. S.H.P.: 42,000=36 kts.
Boilers:	4, of 3-drum type
Oil fuel:	540 tons
Radius:	4,500 miles at 14 kts.
Complement:	195

No.	*Name*	*Launched*	*Completed*
13	*Almirante Antequera*	29 Dec. 1930	1934
31	*Almirante Miranda*	20 June 1931	1934
24	*Escaño*	28 June 1932	1935
22	*Gravina*	24 Dec. 1931	1934
43	*Ulloa*	24 July 1932	1936



ALMIRANTE MIRANDA — 1956, *courtesy Señor A. Aguilera*

General Notes
All built at Cartagena by Sociedad Espanola de Construccion Naval. This class is a later version of the "*Sanchez Barcaiztegui*" design. Now have numbers instead of initials painted on bows, see photos and table at foot of column one.

Recent Disposals
The *Ciscar* which was sunk in the Spanish Civil War in Oct. 1937 but was salved and refitted in 1938-39, ran aground in heavy fog and broke her back off El Ferrol on 17 Oct. 1957. She was removed from the Navy List in 1958. The *Jorge Juan* was removed from the Navy List in 1959.

Destroyers—*continued*

3 "Sanchez Barcaiztegui" Class

("Churruca" Group 1)

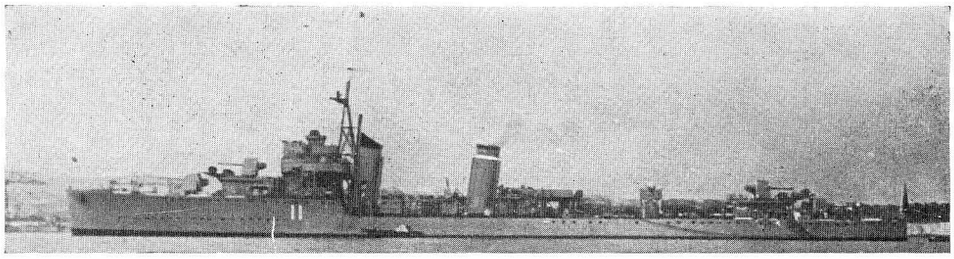
CHURRUCA — **JOSÉ LUIS DIEZ** — **SANCHEZ BARCAIZTEGUI**

Displacement:	1,650 tons *standard* (2,087 tons *full load*)
Dimensions:	320 (*pp.*), 333 (*o.a.*) × 31¾ × 17 (*max.*) feet
Guns:	4—4·7 inch, 2—20 mm. AA.
A/S weapons:	4 D.C.T.
Tubes:	6—21 inch (tripled)
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 42,000=36 kts.
Boilers:	4, of 3-drum type
Oil fuel:	500 tons
Radius:	4,500 miles at 14 kts.
Complement:	175

No.	*Name*	*Launched*	*Completed*
33	*Churruca*	June 1929	1931
11	*José Luis Diez*	25 Aug. 1926	1929
12	*Sanchez Barcaiztegui*	24 July 1926	1928

General Notes

Based on the design of the contemporary British flotilla leaders of the "Scott" class. All built at Cartagena by Sociedad Española de Construccion Naval. The two earliest ships of this class, originally named *Alcalá Galiano* and *Churruca*, were sold to Argentina in 1927, new units bearing the same names being built to replace them. Another ship of this class, *Almirante Juan Ferrandiz* was sunk in the Spanish Civil War in Sep. 1936. *Churruca* was torpedoed by submarine, but repaired. Now have numbers instead of initials painted on bows, see photos and table below.



JOSÉ LUIS DIEZ — 1955, *Spanish Navy, Official*

Modernisation Notes

Plans have been completed for modernising four "Churruca" group destroyers with new anti-aircraft guns, new anti-submarine warfare weapons and new electronic apparatus under the Mutual Defense Assistance Program.

Recent Disposals

The old destroyer *Lepanto* of the "Churruca" Group I was removed from the effective list in Aug. 1957 when the new *Lepanto* (ex-U.S.S. *Capps*) joined the Spanish fleet (see previous page).

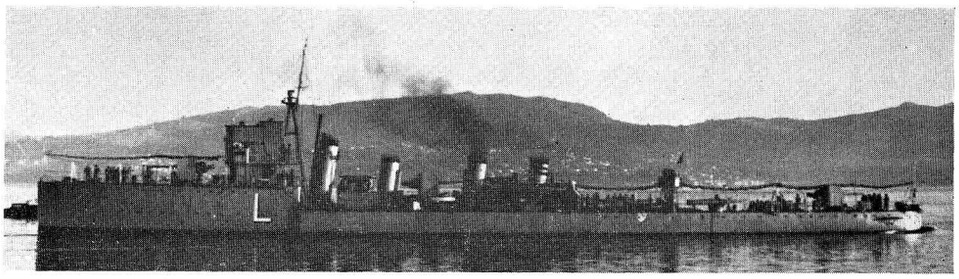
The *Alcala Galiano* of the "Churruca" Group I was also removed from the effective list at the end of 1957. The *Almirante Valdés* of this class was removed from the effective list in 1958.

1 "Alsedo" Class

LAZAGA

Builders:	S.E.C.N., Cartagena
Laid down:	June 1920
Launched:	Mar. 1924
Completed:	Aug. 1925

Displacement:	1,160 tons *normal* (1,485 tons *full load*)
Dimensions:	275 (*pp.*), 283 (*o.a.*) × 27 × 15 (*max.*) feet
Guns:	3—4 inch, 45 cal., 4—37 mm. AA., 2 D.C.T.
Tubes:	4—21 inch in 2 twin deck mountings
Machinery:	Parsons geared turbines 2 shafts. S.H.P.: 33,000=34 kts.
Boilers:	4 Yarrow
Oil fuel:	272 tons
Radius:	2,500 miles at 15 kts.
Complement:	86



LAZAGA — 1960, *courtesy Señor A. Aguilera*

General Notes

Provided under the Law of 1915. *Lazaga* was originally known as *Iuan Lazaga*.

Recent Disposals

The *Alsedo* of this class has been removed from the effective list. The *Velasco* was also stricken off in 1957.

FAST FRIGATES (*Fragatas Rapidas*) Ex-Destroyers

3 "Oquendo" Class

MARQUÉS DE LA ENSENADA
OQUENDO
ROGER DE LAURIA

Displacement:	2,050 tons *standard* (2,765 tons *full load*)
Dimensions:	382 × 36 × 12 (*mean*) feet
Guns:	6—4·7 inch AA. (twin mounts), 6—40 mm. AA., 4—20 mm. AA.
A/S weapons:	Hedgehogs, Projectors, Tracks
Machinery:	Geared turbines of Rateau-Bretagne type. 2 shafts. S.H.P.: 60,000=39 kts.
Boilers:	3, of 3-drum type
Oil fuel:	659 tons
Radius of action:	5,000 miles at 20 kts
Complement:	267

General Notes

All ordered at Ferrol in 1947-48. *Oquendo* was the first ship of the class to be launched. To be completed in 1962, 1961 and 1962, respectively. The "Oquendo" class have been reduced to three ships only, *Blas de Lezo*, *Blasco de Garay*, *Bonifaz*, *Gelmirez*, *Langara* and *Recalde* having been cancelled in 1953.

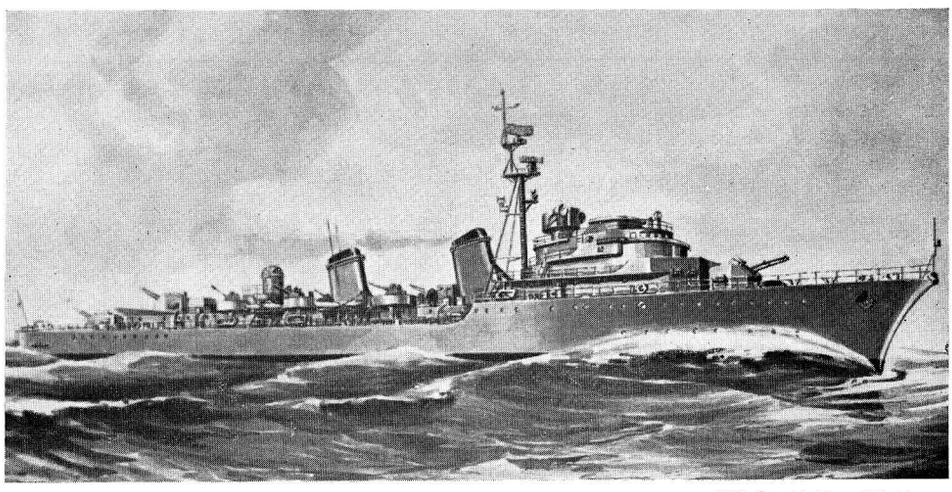
Classification Notes

This class of ships were re-classified as anti-submarine frigates in 1955 and again re-rated as fast frigates in 1956.

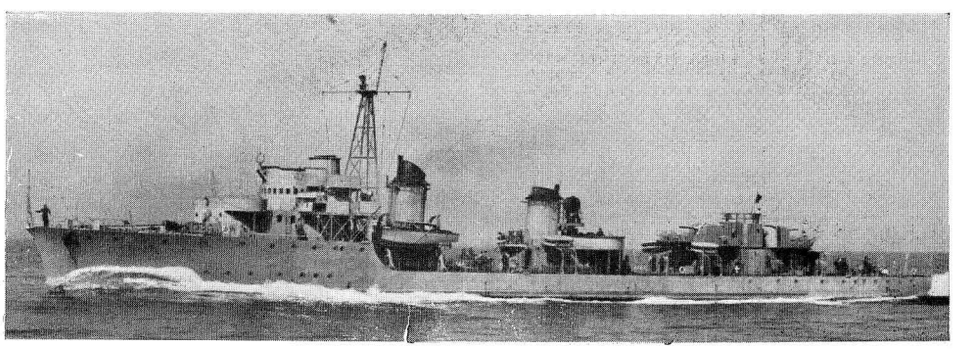
Construction Notes

These vessels were originally designed as destroyers, but during their construction their design was modified and they will be completed as frigates. The seven 21-inch torpedo tubes and two depth-charge throwers have been suppressed, and they will be equipped with anti-submarine rocket projectors.

Name	*Laid down*	*Launched*
Marqués de la Ensenada	4 Sep 1951	
Oquendo	15 June 1951	5 Sep. 1956
Roger de Lauria	4 Sep. 1951	12 Nov. 1958



OQUENDO — 1960, *Spanish Navy, Official*



METEORO (see next page) — 1956, *Spanish Navy, Official*

ANTI-SUBMARINE FRIGATES (*Caza Submarinas*)

9 "Audaz" Class

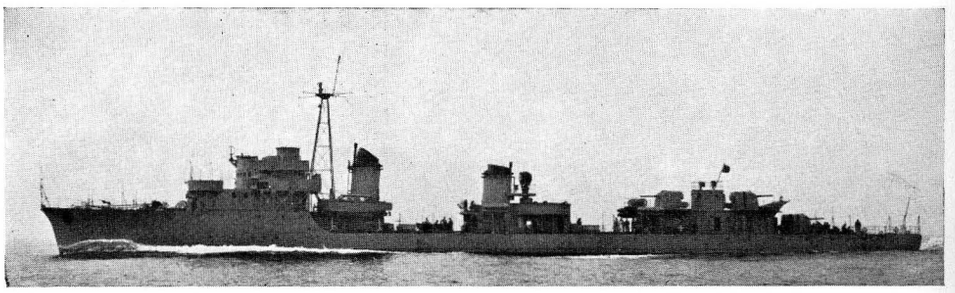
ARIETE **INTREPIDO** **RAYO**
AUDAZ **METEORO** (*ex-Atrevido*) **RELAMPAGO**
FUROR **OSADO** **TEMERARIO**

Displacement:	1,106 tons *standard* (1,484 tons *full load*)
Dimensions:	305 × 30¾ × 10 (*mean*) feet
Guns:	4—3 inch AA. (two twin, Mk. 34); 2—40 mm., 70 cal. AA.
Tubes:	6—21 inch (tripled)
A/S weapons:	2 Hedgehogs, 8 mortars, 2 D.C. racks, 2 side launching torpedo racks
Mines:	40 (capacity) can be carried
Machinery:	Rateau-Bretagne geared turbines. 2 shafts. S.H.P.: 30,800=33 kts.
Boilers:	3, of 3-drum type
Oil fuel:	290 tons
Radius:	3,800 miles at 14 kts., 1,400 miles at 25 kts., 900 miles at 33 kts.
Complement:	145 to 171

General Notes
All built at Ferrol. Fitted for minelaying and minesweeping. Meanings of names: *Ariete*, battering ram; *Audaz*, audacious; *Furor*, fury; *Intrepido*, fearless; *Osado*, daring; *Rayo*, thunderbolt; *Relampago*, lightning flash; *Temerario*, venturesome. Pennant Nos.: *Audaz* 41, *Osado* 42, *Meteoro* 43.

Construction Notes
Designed on mass production lines to permit the rapid building of such ships in numbers in emergency.

Gunnery Notes
Before modernisation these ships mounted 3—4·1 inch guns, 4—37 mm. AA. guns and 8—20 mm. AA. guns.



RAYO 1956, *Spanish Navy, Official*

Engineering Notes
The boilers are in two compartments separated by the engine rooms. Steam is superheated to 375 degrees Fahrenheit. Working pressure is 500 lb. per sq. in. Engines have developed 32,500 S.H.P.

Classification Notes
This class of ships were originally projected as destroyers but their classification was changed to fast frigates in 1955, and they were again re-rated, as anti-submarine frigates, in 1956.

Name	*Laid down*	*Launched*	*Completed*
Ariete	3 Aug. 1945	24 Feb. 1955	1960
Audaz	26 Sep. 1945	24 Jan. 1951	30 June 1953
Furor	3 Aug. 1945	24 Feb. 1955	June 1958
Intrepido	14 July 1945		
Meteoro	3 Aug. 1945	4 Sep. 1951	30 Nov. 1955
Osado	3 Aug. 1945	4 Sep. 1951	25 Jan. 1955
Rayo	3 Aug. 1945	4 Sep. 1951	1956
Relampago	14 July 1945		
Temerario	14 July 1945		

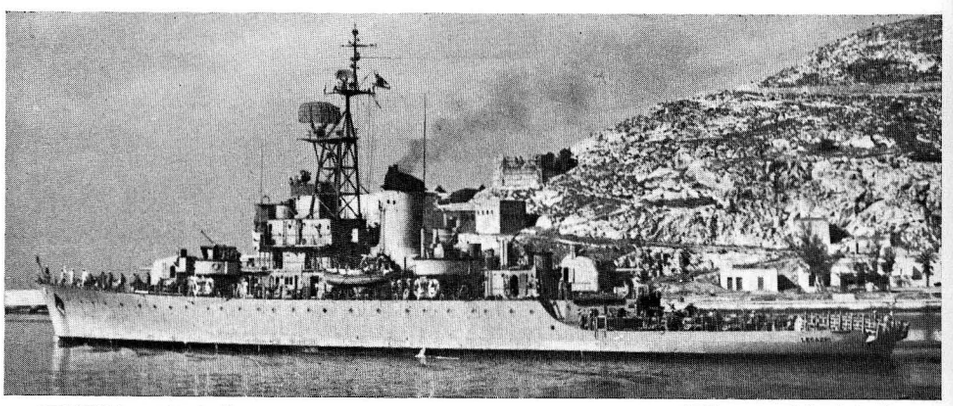
FRIGATES (rated as *Fragatas*)

8 "Pizarro" Class

HERNAN CORTES **MARTIN ALOÑSO PINZON**
LEGAZPI **SARMIENTO DE GAMBOA**
MAGALLANES **VASCO NUÑEZ DE BALBOA**
PIZARRO **VICENTE YAÑEZ PINZON**

Displacement:	1,710 tons *standard* (2,246 tons *full load*)
Dimensions:	279 (*pp.*), 312½ (*o.a.*) × 39½ × 11 feet
Guns:	*Legazpi* and *Vicente Yañez Pinzon* as modernised: 2—5 inch, 38 cal.; 4—40 mm., 70 cal. AA. Remainder: 6—4·7 inch AA. (twin mounts), 8—37 mm. AA., 6—20 mm. AA.
A/S weapons	*Legazpi* and *Vicente Yañez Pinzon* as modernised: 2 Hedgehogs, 8 mortars, 2 D.C. racks, 2 side launching torpedo racks Remainder: 4 D.C.T.
Mines:	30 (capacity) can be carried
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 5,000=18·5 kts.
Boilers:	2 Yarrow
Oil fuel:	386 tons *normal*, 402 tons *max.*
Radius:	3,000 miles at 14 kts.
Complement:	250

General Notes
All built at Ferrol. Designed to carry 30 mines. Now have numbers painted on sides. Rated as *Canoneros* (Gunboats) until 1958 when they were officially re-rated as *Fragatas*.



LEGAZPI (as modernised) 1960, *courtesy Señor A. Aguilera*

No.	*Name*	*Launched*	*Completed*
18	*Hernan Cortes*	3 Aug 1944	18 Sep. 1947
27	*Legazpi*	8 Aug. 1944	8 Aug. 1951
26	*Magallanes*	8 Aug. 1944	20 Dec. 1948
36	*Martin Aloñso Pinzon*	3 Aug. 1944	18 Mar. 1948

No.	*Name*	*Launched*	*Completed*
	Pizarro	3 Aug. 1944	9 Aug 1946
36	*Sarmiento de Gamboa*	8 Aug. 1944	2 May 1950
	Vasco Nuñez de Balboa	3 Aug. 1944	15 Mar. 1947
19	*Vicente Yañez Pinzon*	3 Aug. 1944	5 Aug. 1949

FRIGATE MINELAYERS (*Minadores*)

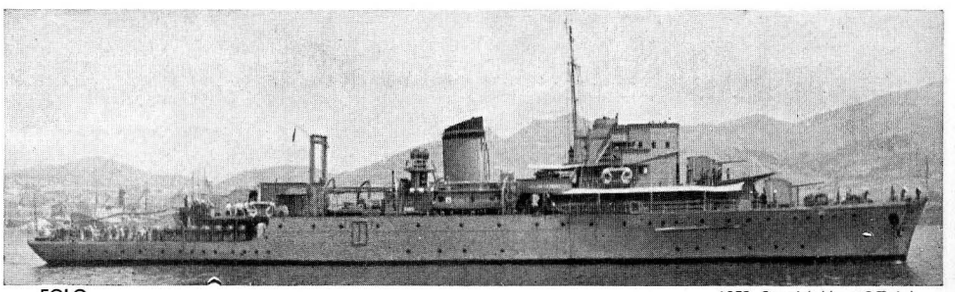
2 "Eolo" Class

EOLO **TRITÓN**

Displacement:	1,500 tons *standard* (1,900 tons *full load*)
Dimensions:	278 × 38½ × 10 feet
Guns:	4—4·1 inch, 4—37 mm. AA., 4 M.G.
A/S weapons:	2 D.C.T.
Mines:	Stowage for 170 (*Tritón*, 180 to 200)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 5,000=19·5 kts.
Boilers:	2 Yarrow
Oil fuel:	300 tons

No.	*Name*	*Launched*	*Completed*
28	*Eolo*	30 Aug. 1939	July 1942
29	*Tritón*	24 Feb. 1940	Oct. 1943

Notes
Both built by the Sociedad Española de Construccion Naval, Ferrol. The design resembles that of the Mexican "Queretaro" type. Dual purpose frigates or gunboats and minelayers.



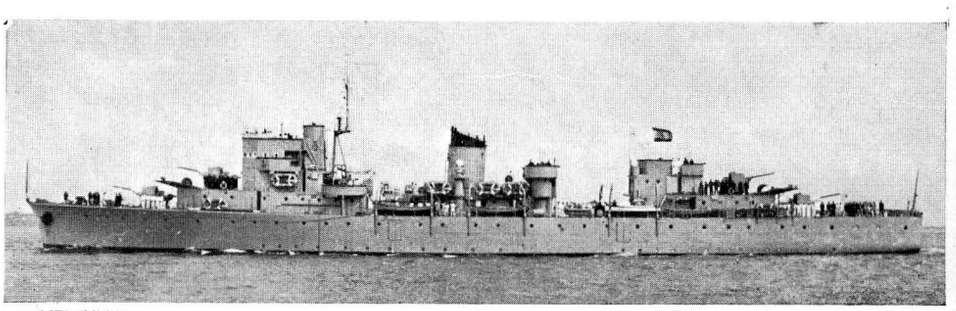
EOLO 1952, *Spanish Navy Official*

4 "Jupiter" Class

JUPITER **NEPTUNO**
MARTE **VULCANO**

Displacement:	2,100 tons *standard* (2,600 tons *full load*)
Dimensions:	302¾ (*pp.*), 315 (*o.a.*) × 41½ × 11½ feet
Guns:	*Jupiter* and *Vulcano* as modernised: 4—3 inch AA. (single, Mk. 26); 4—40 mm., 70 cal. AA. *Marte:* 4—4·7 inch, 2—3 inch AA., 3—37 mm. AA., 2—20 mm. AA. (see *Notes*)
A/S weapons:	*Jupiter* and *Vulcano* are being modernised with 2 Hedgehogs, 8 Mortars, 2 D.C. racks
Mines:	Stowage for 264 *max.*, normally less
Machinery:	2 sets Parsons geared turbines. 2 shafts. S.H.P.: 5,000=18·5 kts.
Boilers:	Yarrow
Oil fuel:	280 tons
Complement:	123

Notes
All built by the Sociedad Española de Construccion Naval, Ferrol. Multi-purpose frigates or gunboats and cruising type minelayers. *Neptuno* is midshipmen's training ship and carries 4—4·7 inch guns, 4—3·7 mm. AA. and 3—20 mm. AA.



NEPTUNO 1956, *courtesy P. Gildea-Evans, Esq.*

Pennant Nos	*Name*	*Launched*	*Completed*
16	*Jupiter*	14 Sep. 1935	1937
39	*Marte*	19 June 1936	1937
17	*Neptuno*	19 Dec. 1937	1938
38	*Vulcano*	18 Oct. 1935	1937

Recent Disposals
The frigate *Canovas del Castillo* was officially stricken from the list in 1960.
The larger frigate *Calvo Sotelo* (ex-*Zacatecas*) of the "Durango" type was removed from the effective list at the end of 1957.

SUBMARINES (*Submarinos*)

3 "D" Class

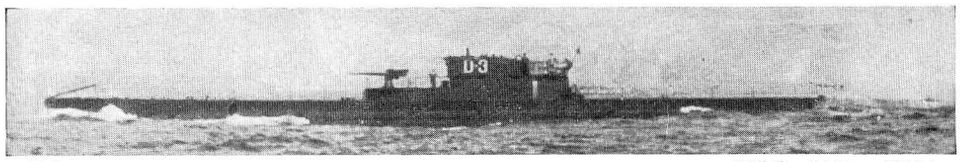
D 1 **D 2** **D 3**

Displacement:	1,065 tons (*surface*), 1,480 tons (*submerged*)
Dimensions:	275½ × 21¾ × 13½ feet (*mean*)
Guns:	*D* 3: 1—4·7 inch, 2 M.G. *D* 1, *D* 2: none as modernised
Tubes:	6—21 inch (4 bow, 2 stern)
Machinery:	2 Sulzer diesels, B.H.P.: 5,000=20·5 kts. (*surface*). Electric motors, H.P.: 1,300=9·5 kts (*submerged*)
Radius:	9 000 miles (*surface*)
Complement:	60

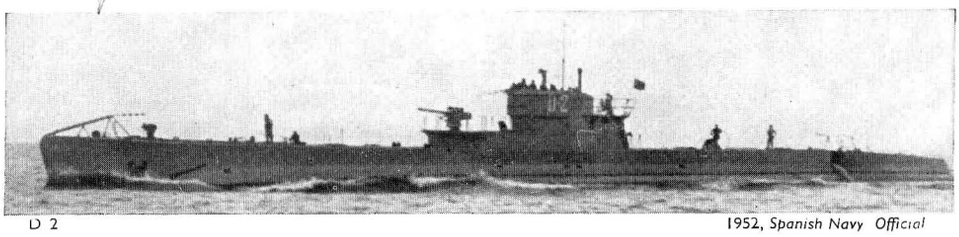
Notes

Admiralty type. Ordered under the 1926 Programme. All built at the Sociedad Española de Construccion Naval, Cartagena. Construction was held up by the Civil War. Diving limit, 50 fathoms. *D* 3 on trials early 1953.

Name	*Laid down*	*Launched*	*Completed*
D 1	Sep. 1933	11 May 1944	18 Mar. 1947
D 2	Sep. 1934	21 Dec 1944	2 Apr. 1951
D 3	1945	20 Feb 1952	1954



D 3 — 1954, *Spanish Navy, Official*



D 2 — 1952, *Spanish Navy Official*

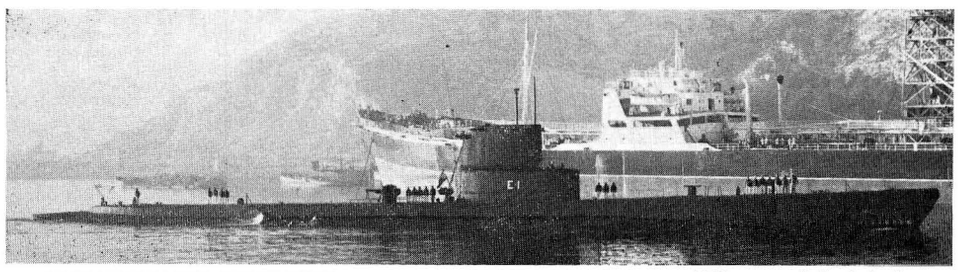
2 Ex-U.S. "Balao" Class

ALMIRANTE GARCIA DE LOS REYES
(ex-U.S.S. *Kraken*, *SS* 370)

Builders:	Manitowoc S.B. Co.
Laid down:	30 Apr. 1944
Completed:	8 Sep. 1944 (commissioned)
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,040 tons *submerged*)
Dimensions:	312 × 27 × 17 feet
Tubes:	10—21 inch
Machinery:	4 diesels. B.H.P.: 6,400=20 kts. (*surface*). Electric motors. H.P.: 4,600=10 kts. (*submerged*)

Notes

Transferred to the Spanish Navy from the United States Navy under the Mutual Defense Assistance Program in Oct. 1959 after completing modernisation and overhaul at Pearl Harbour, Hawaii in 1959. Another U. S. submarine of the "Balao" class is to be transferred shortly.

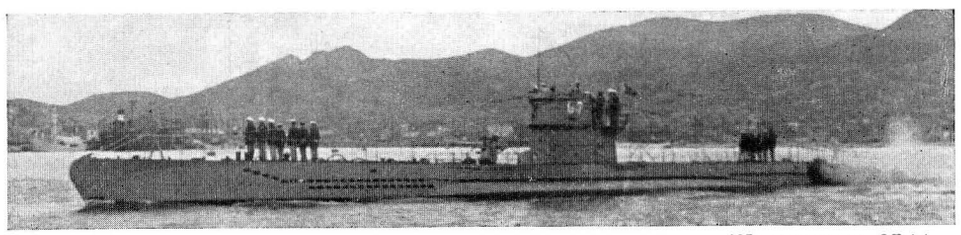


ALMIRANTE GARCIA DE LOS REYES — 1960, *courtesy Señor A. Aguilera*

1 Ex-German Type

G 7 (*ex-U* 573)

Displacement:	757 tons (*surface*), 857 tons *submerged*)
Dimensions:	228½ × 20½ × 14¾ feet
Guns:	1—3·5 inch
Tubes:	5—21 inch (4 bow, 1 stern)
Machinery:	Diesels, B.H.P: 3,000=17·9 kts. (*surface*). Electric motors, H.P.: 750=8·5 kts. (*submerged*)
Radius:	9,000 miles (*surface*)
Complement:	45



G 7 — 1952, *Spanish Navy, Official*

Notes

Built in Germany by Blohm & Voss, Hamburg. Interned in Spain in 1942 and purchased the following year.

Cancellation Notes

It is officially stated that the construction of four new submarines G 1, G 2, G 3, G 4 (G 5 and G 6 were also projected originally) ordered in 1945 at Cartagena, which were to have been generally similar to the ex-German G 7, has been abandoned. U.S. submarines will probably be acquired under the Mutual Defense Assistance Program in their place.

Recent Disposals

It is officially stated that the two former Italian submarines *General Mola* (ex-*Evangelista Torricelli*) and *General Sanjurjo* (ex-*Archimede*) were removed from the Navy List in 1959.

4 Midget Type.

TIBURON I **TIBURON II**

Notes

Two midget submarines of the "Foca" class were launched in 1957-58. Two more are to be built.

The "Tiburon" class will have a complement of 5 officers and men.

"Foca" Class

FOCA I **FOCA II**

Displacement:	16 tons
Dimensions:	39½ × 6½ × 5½ feet
Machinery:	Speed: 9·2 kts. *surface*, 12 kts. *submerged*
Radius:	700 miles
Complement:	2

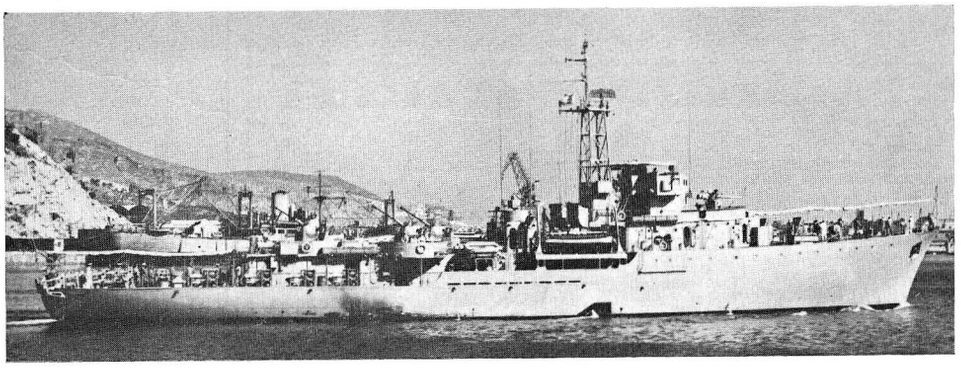
CORVETTES (*Corbetas*)

6 "Atrevida" Class

ATREVIDA **DIANA** **PRINCESA**
DESCUBIERTA **NAUTILUS** **VILLA DE BILBAO**

Displacement:	912 tons *standard* (1,022 tons *full load*)
Dimensions:	247¾ (*o.a.*) × 33½ × 9½ feet
Guns:	*Descubierta*: 1—4·1 inch AA., 2—37 mm. (twin mount), 12—20 mm. quadruple mounts) Remainder, as modernised: 1—3 inch, Mk. 26; 3—40 mm., 70 cal. AA.
A/S weapons:	*Descubierta*: 4 D.C.T. Remainder, as modernised: 2 Hedgehogs, 8 mortars, 2 D.C. racks
Mines:	20 (capacity) can be carried
Machinery:	2 Diesels. 2 shafts. B.H.P.: 3,000=18·5 kts.
Oil fuel:	100 tons
Radius:	7,000 miles
Complement:	113

Name	*Laid down*	*Launched*	*Completed*
Atrevida	26 June 1950	9 June 1952	19 Aug. 1954
Descubierta	26 June 1950	2 Dec. 1952	Feb. 1955
Diana	27 July 1953	29 Apr. 1955	1956
Nautilus	27 July 1953	23 Aug. 1956	1958
Princesa	18 Mar. 1953	31 Mar. 1955	1957
Villa de Bilbao	18 Mar. 1953	1956	1958



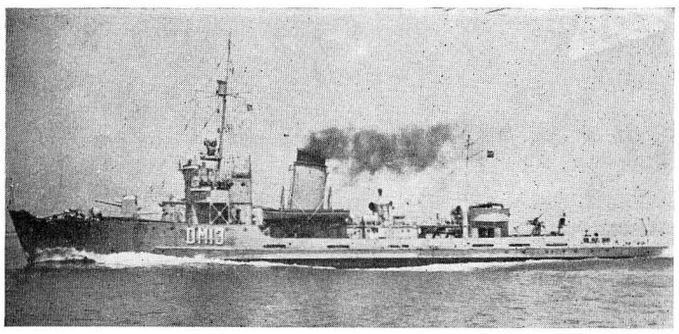
DIANA (re-armed, lattice mast) — 1960, *courtesy Señor A. Aguilera*

Notes

Atrevida, *Descubierta*, *Diana* and *Princesa* were built at Cartagena. *Nautilus* and *Villa de Bilbao* were built at Cadiz.

Atrevida commissioned on 19 Aug. 1954. *Descubierta* commissioned in 1955.

FLEET MINESWEEPERS (*Dragaminas*)



EO 1958, *Spanish Navy, Official*

7 "Almanzora" Class

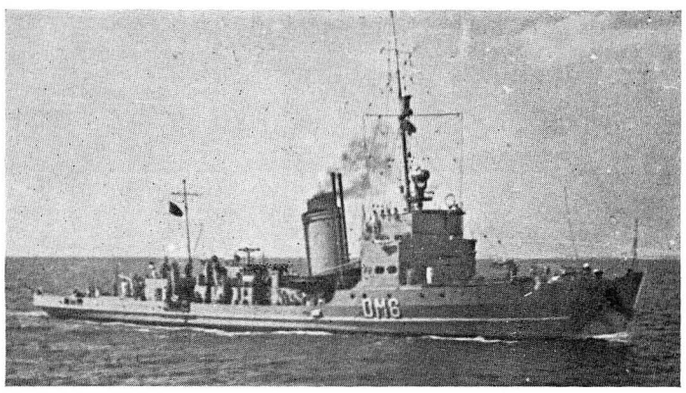
ALMANZORA **GUADALHORCE** **NAVIA**
EO **GUADIARO** **TINTO**
EUME

Displacement:	615 tons *standard* (770 tons *full load*)
Dimensions:	203 × 28 × 8 feet
Guns:	As modernised: 2—20 mm. AA.
Machinery:	Triple expansion and exhaust turbines. 2 shafts. H.P.: 2,400 = 16 kts.
Boilers:	2 three-drum water-tube
Fuel:	192 tons coal
Radius:	3,000 miles at 10 kts.
Complement:	80

General Notes
Guardiaro and *Tinto* were commissioned in 1953. *Eume* was commissioned in Dec. 1953. Pennant Nos. *DM* 11, 13, 10, 14, 8, 12, 9, respectively.

Gunnery Notes
Until modernisation the armament also included 1—3·5 inch gun and 1—37 mm. AA. gun.

Name	*Builders*	*Launched*	*Completed*
Almanzora	Cartagena	27 July 1953	1954
Eo	Cadiz	Sep. 1953	Mar. 1955
Eume	Cartagena	27 July 1953	Dec. 1953
Guadalhorce	Cartagena	18 Feb. 1953	1953
Guardiaro	Cartagena	26 June 1950	Apr. 1953
Navia	Cadiz	Sep. 1953	Mar. 1955
Tinto	Cartagena	26 June 1950	May 1953



SEGURA *Added* 1958, *Spanish Navy, Official*

6 "Bidasoa" Class

BIDASOA **NERVION** **TAMBRE**
LEREZ **SEGURA** **TER**

Displacement:	615 tons *standard* (709 tons *full load*)
Dimensions:	189 (*pp.*), 210 (*o.a.*) × 28 × 7¼ feet
Guns:	1—4·1 inch, 1—37 mm. AA., 2—20 mm. AA.
Machinery:	Triple expansion with exhaust turbines. 2 shafts. H.P.: 2,400 = 16·5 kts.
Boilers:	2
Fuel:	190 tons coal
Radius:	3,000 at 10 kts.
Complement:	65

General Notes
German M-Boote 40 type. Named after rivers, and carry pennant numbers *DM* 1, 5, 3, 2, 6, 4, 7, respectively.

Class Notes
Guadalete, of this class, which was employed as a coastguard vessel, sank in a gale 20 miles east of Gibraltar on 25 Mar. 1954.

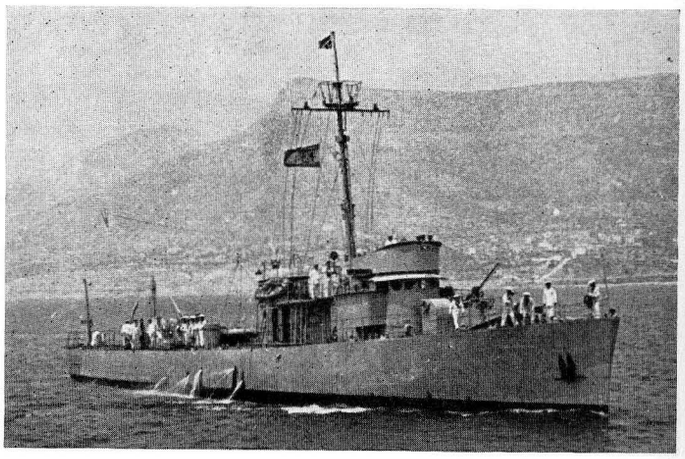
Name	*Builders*	*Launched*	*Completed*
Bidasoa	Cartagena	15 Sep. 1943	1946
Lerez	Cartagena	21 Dec. 1944	1947
Nervion	Cartagena	15 Apr. 1944	1946
Segura	Cartagena	15 Apr. 1945	1949
Tambre	Ferrol	18 Oct. 1944	1946
Ter	Cartagena	15 Apr. 1945	1948

SUBMARINE CHASERS

12 New Construction

Notes
It is proposed to build twelve petrol type vessels under the new naval construction programme.

Submarine Chasers—*continued*



JAVIER QUIROGA 1958, *Spanish Navy, Official*

1 Ex-U.S. PC Type

JAVIER QUIROGA (*ex-PC*)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 10¾ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 2,880 = 20 kts

Notes
Former United States submarine chaser of the "173 ft." steel type. Transferred to Spain on 24 Oct. 1956.



CANDIDO PEREZ 1958, *Spanish Navy, Official*

1 Ex-U.S. SC Type

CANDIDO PEREZ (*ex-SC* 679)

Displacement:	116 tons (*trials*), 148 tons *full load*
Dimensions:	107½ (*w.l.*), 110⅝ (*o.a.*) × 17 × 6½ feet
Guns:	1—40 mm. AA.
A/S weapons:	D.C.
Machinery:	G.M. diesels. 2 shafts B.H P.: 800 = 15·6 kts.

Notes
Former United States submarine chaser of the "110 ft." wooden type. Built by Walter E. Abrams Shipyard, Inc. Laid down on 4 Mar. 1942. Launched on 29 Aug. 1942. Completed on 19 Dec. 1942. Transferred to Spain in 1957.

COASTAL MINESWEEPERS



JUCAR 1960, *courtesy Señor A. Aguilera*

12 Ex-U.S. AMS Type

DUERO (ex-*Spoonbill*, *MSC* 202) **LLOBREGAT** (ex-*AMS* 143) **SIL** (ex-*Redwing*, *MSC* 200)
EBRO (ex-*MSC* 269) **MIÑO** (ex-*AMS* 265) **TAJO** (ex-*MSC* 287)
GENIL (ex-*MSC* 279) **NALÓN** (ex-*AMS* 139) **TURIA** (ex-*AMS* 130)
JUCAR (ex-*AMS* 220) **ODIEL** (ex-*MSC* 288) **ULLA** (ex-*AMS* 265)

Displacement:	375 tons *standard* (405 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 26½ × 8 feet
Guns:	1—20 mm. AA.
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 1,200 = 14 kts.
Oil fuel:	30 tons
Radius:	2,500 miles at 10 kts.
Complement:	34

Notes
Three anti-magnetic minesweepers were transferred from the U.S.A. to the Spanish Navy, at San Diego, California, on 16 Feb. 1954 (*Nalón*), two 5 Nov. 1954 (*Llobregat*) and 1 June, 1955 at New York (*Turia*) under MDAP Three more were transferred:—*Jucar* (launched at Bellingham, Wash. on 24 June, 1955), at Seattle, Washington, on 22 June, 1956; *Ulla* at Boston, Mass. on 24 July, 1956; and *Miño* at Boston on 25 Oct. 1956, all under the terms of the Mutual Defense Assistance Program. *Redwing* and *Spoonbill* of the United States "Bluebird" class were transferred to Spain at Norfolk on 16 June, 1959. *Ebro* was transferred on 19 Dec. 1958 at Seattle, Washington, where *Genil* was transferred on 11 Sep. 1959. *Tajo* was transferred at Charleston, S.C., under MDAP, on 9 July 1959 and *Odiel* was transferred at Charleston on 9 Oct., 1959.

MOTOR TORPEDO BOATS (*Lanchas Torpederas*)



LT 32 — 1960, *Spanish Navy, Official*

8 Carraca Type

LT 27 **LT 28** **LT 29** **LT 30** **LT 31** **LT 32** **LT 33** **LT 34**

Displacement:	120 tons *standard* (140 tons *full load*)
Dimensions:	114 × 16⅔ × 5 feet
Guns:	2—20 mm. AA., 4 M.G.
Tubes:	2—21 inch
Machinery:	3 diesels. 3 shafts. B H.P.: 7,500=41 kts.
Oil fuel:	20 tons
Radius:	700 miles at 30 kts.
Complement:	22

Notes

Built at La Carraca, Cadiz, to the design of Lurssens of Bremen. LT 27, LT 28, LT 29 were handed over to the Spanish Navy on 10 July 1953. LT 31 was commissioned on 21 July 1956 L 32 was launched in 1956. Four more were delivered in 1958-59. L 33 and L 34 have steel hulls. Later boats will be propelled by gas turbines.

New Construction

It is reported that a new boat *LT* 37 will be propelled by gas turbines

Recent Disposals

Of the six ex-German motor torpedo boats of the S 100 class, LT 24 and LT 25 were removed from the effective list in 1955, LT 21, LT 22 and LT 23 in 1957, and LT 26 in 1958.

LANDING SHIPS

3 Ex-U.S. LSM Type

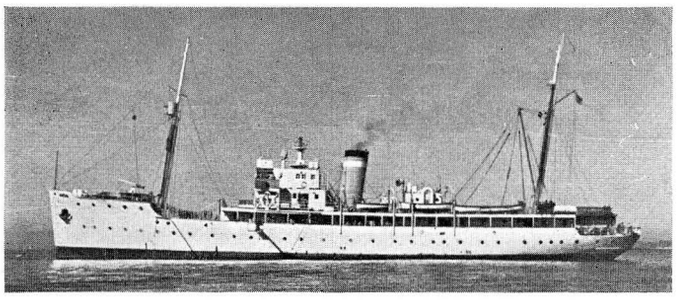
LSM 1 (ex-U.S.S. *LSM* 329) **LSM 2** (ex-U.S.S. *LSM* 331) **LSM 3** (ex-U.S.S. *LSM* 343)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8⅓ feet
Guns:	2—40 mm. AA.
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 2,800=12·5 kts.
Complement:	59

Notes

Medium landing ships transferred to Spain at Bremerton, Washington, on 25 Mar. 1960.

SURVEYING VESSELS (*Buques Hydrografos*)



MALASPINA — 1957 *Spanish Navy Official*

2 "Tofino" Class

MALASPINA (ex-*Bausa*) **TOFIÑO**

Displacement:	990 tons *standard* (1,200 tons *full load*)
Dimensions:	224 × 35 × 11 feet
Guns:	1—47 mm., 2 M.G. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850=12·5 kts.
Boilers:	2 Yarrow
Fuel:	190 tons
Complement:	130

Notes

Built by Matagorda, Cadiz and Ferrol, respectively. Launched on 13 Sep. 1935 and 21 Aug. 1933, respectively.

1 "Cosa" Type

JUAN DE LA COSA (ex-*Artabro*)

Displacement:	770 tons *standard* (1,026 tons *full load*)
Dimensions:	177½ × 35½ × 8¾ feet
Machinery:	Burmeister & Wain diesels, electric drive. B.H.P.: 700=9 kts.

Notes

Built by U.N.L., Valence. Launched in 1935. Carries one aircraft. Photograph in the 1950-51 to 1957-58 editions.

SURVEYING TENDERS (*Launches*)

2 "H" Class

H 2 **H 3**

Displacement:	256 tons
Dimensions:	100 × 20 × 9 feet
Machinery:	H.P.: 300

Notes

Both launches employed as surveying tenders. Sister ship *H* 1 was stricken off in 1952.

PATROL VESSELS (*Guardacostas*)

2 New Construction

Displacement:	934 tons
Dimensions:	183¾ × 32¾ × 12 feet
Guns:	2—37 mm. AA., 2—20 mm. AA.
Mines:	24
Machinery:	Speed=14·5 kts.

Notes

These vessels, and the vessels below, are rated as coastguard patrol vessels.

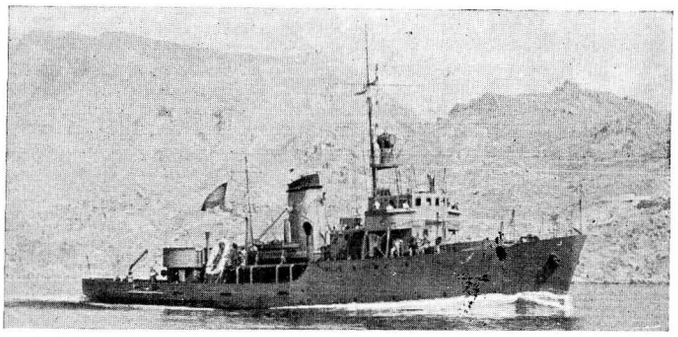
2 "Centinela" Class

CENTINELA **SERVIOLA**

Displacement:	270 tons
Dimensions:	119 × 22½ × 9¾ feet
Guns:	1—37 mm.
Machinery:	B.H.P.: 450=12 kts.

Notes

Completed at A.S.T.A.B.N.O., Ferrol, in 1953.



PROCYON — 1951, *courtesy Señor A. Aguilera*

2 "Pegaso" Class

PEGASO **PROCYON**

Displacement:	437 tons *standard* (503 tons *full load*)
Dimensions:	137¾ × 27 × 9½ feet
Guns:	1—3 inch AA., 2—20 mm. AA.
Machinery:	Diesels. 1 shaft. B.H.P.: 530=12 kts.
Oil fuel:	66 tons
Radius:	3,500 miles at 9 kts.
Complement:	37

Notes

Both commissioned for service at Cartagena in Jan. 1951. *Alhucemas* and *Finisterre* have been removed from the effective list.

2 "Cies" Class

CIES **SALVORA**

Displacement:	180 tons
Dimensions:	105 × 20⅔ × 8½ feet
Guns:	1—37 mm.
Machinery:	B.H.P.: 300=12 kts.

Notes

Purchased in December 1952.

2 "Mersey" Type

ARCILA (ex-*William Doak*) **XAUEN** (ex-*Henry Cramwell*)

Displacement:	750 tons
Dimensions:	138½ (*pp.*), 148 (*o.a.*) × 23¾ × 15¾ feet (*Xauen*, 17 feet)
Guns:	2—3 inch (*Xauen*, 1—3 inch, 1—47 mm. AA.)
Machinery:	I.H.P.: 500=10 kts.
Coal:	200 tons
Complement:	39

Notes

"Mersey" type trawlers. Launched in 1918 by Goole S.B. & Rep. Co., and Lobnitz.

1 "Azor" Type

AZOR

Displacement:	110 tons
Machinery:	Speed=12 kts.

1 Trawler Type

UAD KERT (ex-*Rother*, ex-*Anthony Aslett*)

Displacement:	640 tons
Dimensions:	130 (*pp.*) × 23½ × 15½ feet
Guns:	2—3 inch
Machinery:	I.H.P.: 500=9·5 kts.
Coal:	200 tons
Complement:	39

Notes

Built by Cochrane & Sons Ltd., Selby. Launched in 1917. "Special" type trawler.

MOTOR LAUNCHES (*Lanchas Rapidas*)

V 20 **V 21**

Displacement:	42 tons
Dimensions:	Length: 82 feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. Speed: 19·2 kts.

Notes

V 20 and V 21 are ex-German motor launches. Incorporated into the Spanish Navy in 1945. Photograph of *V 20* in the 1957-58 edition.

ESTURIÓN (*V* 12) **LANZÓN** (*V* 18)

Displacement:	110 tons
Dimensions:	72 × 17½ × 6 feet
Machinery:	B.H.P.: 60=10·5 kts.

Notes

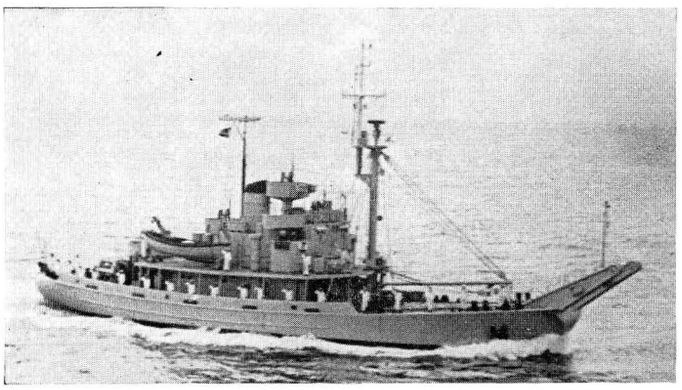
Esturion and *Lanzón* were launched in 1944. The designed speed was 12 knots.

V 1 **V 2** **V 3** **V 4** **V 5** **V 7** **V 8** **V 9** **V 10** **V 11** **V 13** **V 17** **V 19**

Notes

V 1 to V 19 are small launches employed on fishery protection duties. Displacements vary (5 to 45 tons).

BOOM DEFENCE VESSEL



CR 1 — 1958, *Spanish Navy, Official*

1 Ex-U.S. AN Type

CR 1 (*ex-G 6*)

Displacement:	560 tons *standard* (770 tons *full load*)
Dimensions:	149½ × 33½ × 10½ feet
Guns:	1—40 mm. AA., 1—20 mm. AA.
Machinery:	2 diesels with electric drive. B.H P.: 1,600=12 kts.

Notes
Built by Penhoët, France, as a United States "off-shore" order. Launched on 28 Sep. 1954. Transferred from the U.S. Navy in 1955 under the Mutual Defense Assistance Program.

TRAINING SHIPS

JUAN SEBASTIAN DE ELCANO

Displacement:	3,420 tons (*at three-quarters load*)
Dimensions:	269½ (*pp.*) 308½ (*o.a.*) × 43 × 23 feet (*full load*)
Guns:	4—6 pdr.
Machinery:	1 Sulzer diesel motor. 1 screw B.H.P.: 800=9 5 kts.
Oil fuel:	230 tons
Endurance:	10,000 miles at 9·5 kts.
Complement:	224+80 Cadets

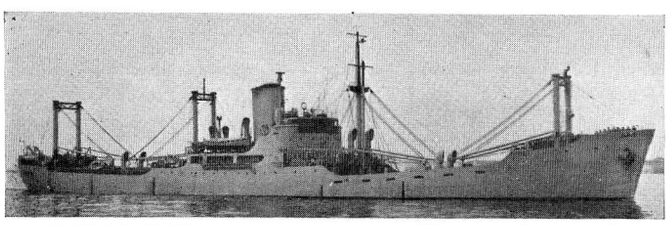
Notes
Four-masted schooner. Named after the first circumnavigator of the world (1519-26) who succeeded to the command of the expedition led by Magallanes after the latter's death. Built by Echevarrieta Yard, Cadiz. Launched on 5 Mar. 1927. Completed in 1928. Photograph in the 1952-53 to 1957-58 editions.

GALATEA (ex-*Clarastella*)

Displacement:	2,713 tons
Dimensions:	243 × 38¾ × 17¾ feet
Guns:	4—6 pdr.
Machinery:	2 Polar Atlas 4-cyl. diesels. B.H.P.: 680=8·5 kts.
Oil fuel:	46 tons
Complement:	140

Notes
Barque. Launched in 1896. Purchased in Italy in 1922. Training ship for Boys. Photograph in the 1957-58. edition.

TRANSPORTS



ALMIRANTE LOBO — 1956, *courtesy Señor A. Aguilera*

ALMIRANTE LOBO (*ex-Torrelaguna*

Displacement:	7,750 tons
Dimensions:	342 × 48 × 22 feet
Guns:	1—4·1 inch
Machinery:	1 triple expansion. I.H.P.: 2,260=12 kts.

Notes
Ex-cargo vessel. Built at Astilleros Echevarrieta, Cadiz. Commissioned on 4 Oct. 1954.

TARIFA (*ex-Castillo Arevalo*)

Displacement:	1,325 tons
Dimensions:	270 · 35 × 12 feet
Machinery:	I.H.P.: 840=10 kts.

Notes
Mercantile measurement is reported to be 1,374 tons *gross*. Photograph in the 1954-55 to 1957-58 editions.

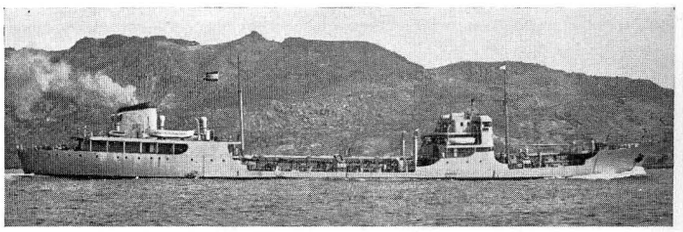
RIVER PATROL BOAT

CABO FRADERA

Displacement:	44 tons
Dimensions:	74⅜ × 14½ × 4¼ feet
Guns:	1—42 mm.
Machinery:	H.P.: 120=10 kts.
Complement:	11

Notes
Rated as a *guarda-pesca*. Engaged in the patrol of the River Mino (Minho) on the Portuguese frontier. Photograph in the 1957-58 edition.

OILERS



TEIDE — 1958, *Spanish Navy, Official*

TEIDE

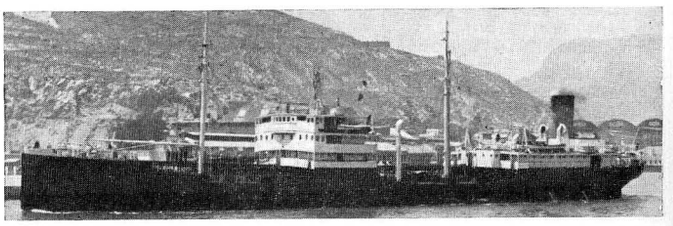
Displacement:	7,205 tons
Dimensions:	385½ × 48½ × 20½ feet
Guns:	1—4·1 inch
Machinery:	2 diesels. B.H.P.: 2,800=12 kts

Notes
Ordered from Factoria de Bazan, Cartagena, in December 1952. Laid down on 11 Nov. 1954. Launched on 20 June 1955. In service October 1956.

PP 1 **PP 2**

Displacement:	470 tons
Dimensions:	138 (*pp.*), 147½ (*o.a.*) × 25 × 9½ feet
Machinery:	Deutz diesel. B.H.P.: 220=10 kts.
Complement:	12

Notes
Both built at Santander and launched in 1939. Small service tankers.



PLUTON — 1954, *courtesy Señor A. Aguilera*

PLUTON (*ex-Campilo*)

Displacement:	4,550 tons (in light condition
Dimensions:	342½ × 53¾ × 19½ feet
Machinery:	2 sets B. & W. diesels B.H P.: 2,530=13·5 kts.

Notes
Built at Valencia. Diesels built at Barcelona. Launched in 1931. Purchased in Dec. 1934.

AUXILIARY PATROL VESSELS

5 Tug Type

RR 10 **RR 19** **RR 20** **RR 28** **RR 29**

Displacement:	454 tons
Dimensions:	124 × 27½ × 10 feet
Guns:	1—47 mm., 1—20 mm. AA.
Machinery:	1 shaft. I.H.P.: 800=11·5 kts.
Coal:	200 tons
Radius:	1,000 miles at 10 kts.

Notes
Former tugs. All launched in 1941-42. Now classed as patrol vessels. Photograph in the 1957-58 edition.

TUGS (*Remolcadores*)

RA 1 **RA 2**

Displacement:	934 tons
Dimensions:	184 × 32⅜ × 12 (*max.*) feet
Guns:	1—37 mm.
Machinery:	2 diesels. B.H.P.: 3,200=15 kts.

Notes
Ordered in 1949. Built at Factoria de Bazan, Cartagena. Launched on 2 Sep. 1954, and 5 Oct 1954, commissioned on 9 July 1955 and 12 Sep. 1955, respectively.

RA 3 (*ex-RA 2, ex-Argos*)

Displacement:	217 tons
Dimensions:	123 × 23½ × — feet
Machinery:	I.H.P.: 750=10 kts

RR 25

Displacement:	300 tons

Notes
Built by La Carraca Dockyard, Cadiz. Launched on 26 Mar. 1944

RR 15 **RR 16** **RR 17**

Displacement:	434 tons
Dimensions:	124 × 27½ × 10 feet
Machinery:	I.H.P.: 800=11·5 kts.

RR 11

Displacement:	279 tons
Dimensions:	111½ × 20 × — feet
Machinery:	I.H.P.: 600=11 kts.

RR 12 (*ex-Cartagenero, ex-H.S. 78*) **RR 14** (*ex-Gaditano, ex-H.S. 82*)

Displacement:	235 tons
Dimensions:	83½ × 21½ × 10½ feet
Guns:	1—6 pdr.
Machinery:	H.P.: 420=10 kts.

Notes
Built by Crichton & Co., South Saltney, Chester, England. Launched in 1918.

ROYAL SWEDISH NAVY

Administration

Commander-in-Chief of the Navy (including Coast Artillery):
Vice-Admiral Stig H: son-Ericson, G.C.V.O.

President of the Navy Technical and Administrative Board:
Rear-Admiral A. G. Jedeur-Palmgren.

Commander-in-Chief of Active Fleet:
Rear-Admiral B. Berthelsson.

Naval Attaché in London:
Captain B. Hedlund

Navy Estimates

1959-60: 396,500,000 kr.
1960-61: 389,500,000 kr.

Personnel

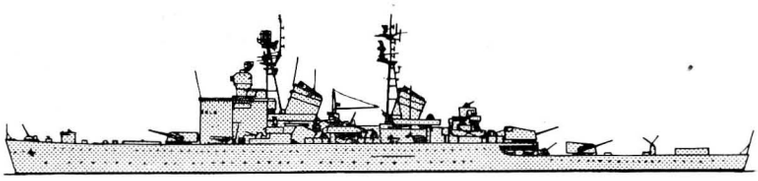
1960: Active List of Navy and Coast Artillery, 10,490 officers and men, including the conscript class of the year.

Mercantile Marine

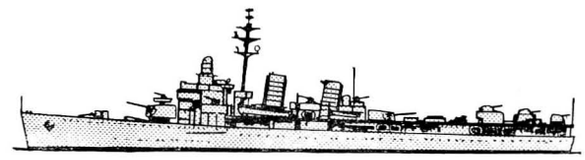
Lloyd's Register of Shipping:
1,210 vessels of 3,623,423 tons gross

Silhouettes

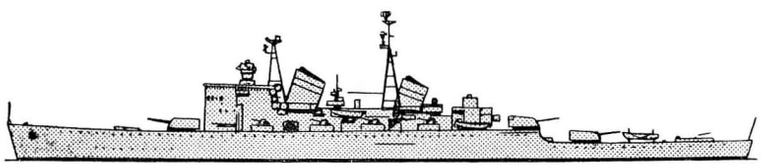
Scale: 150 feet = 1 inch.



GÖTA LEJON



GOTLAND



TRE KRONOR



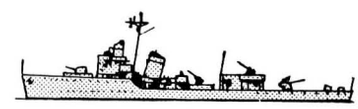
HALLAND *Class*



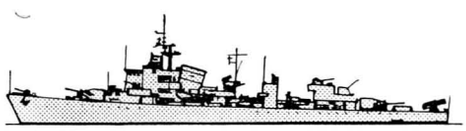
ÖSTERGÖTLAND *Class*



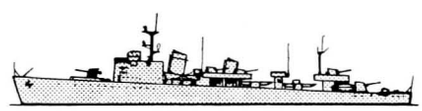
VISBY *Class*



MJÖLNER *Class*



ÖLAND



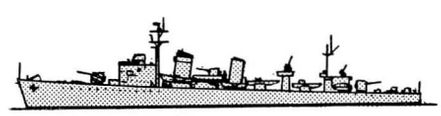
GÄVLE



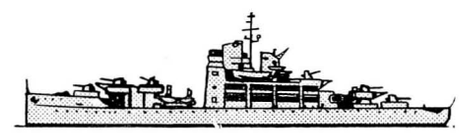
EHRENSKÖLD, NORDENSKJÖLD



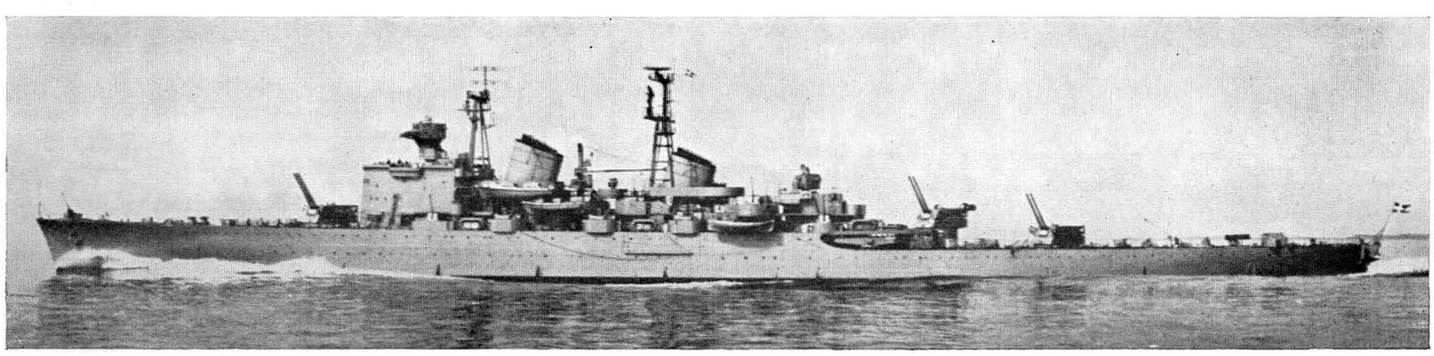
UPPLAND



MALMÖ



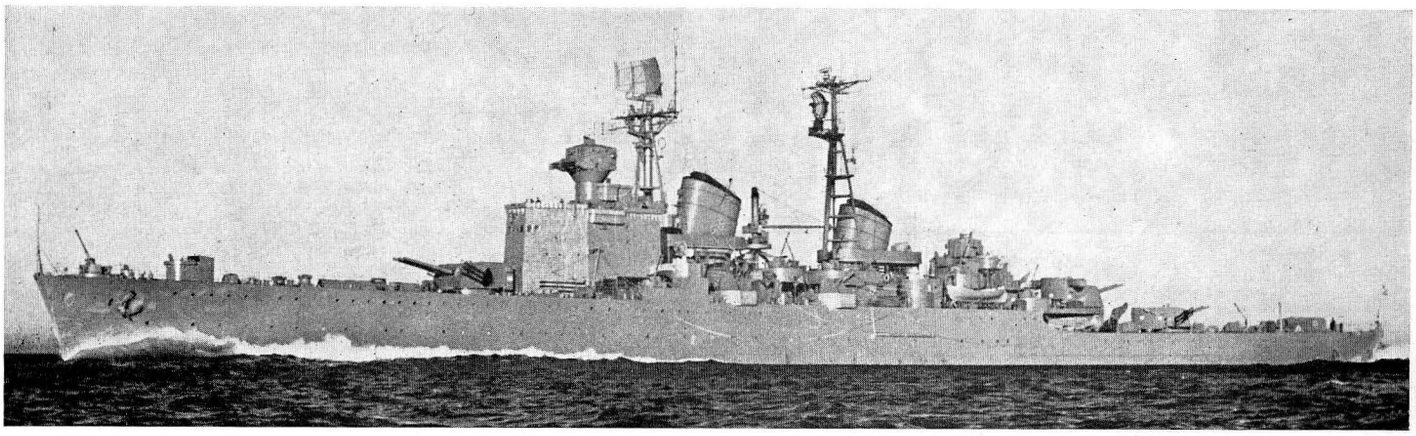
ÄLVSNABBEN



TRE KRONOR (see next page)

Royal Swedish Navy, Official

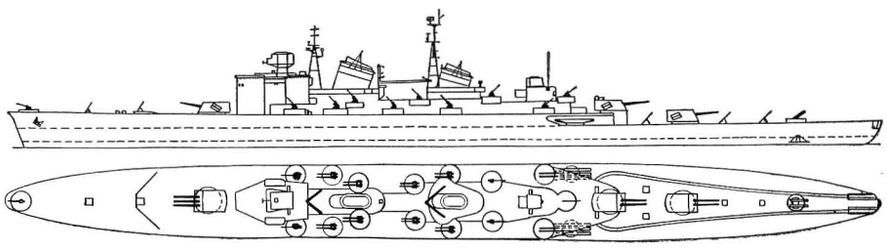
CRUISERS



GÖTA LEJON

1959, *Royal Swedish Navy, Official*

2 "Tre Kronor" Class



	GÖTA LEJON	TRE KRONOR
Name:	*Göta Lejon*	*Tre Kronor*
Builders:	Eriksberg Mekaniska Verkstad, Göteborg	Götaverken, Göteborg
Laid down:	27 Sep. 1943	27 Sep. 1943
Launched:	17 Nov. 1945	16 Dec. 1944
Completed:	15 Dec. 1947	18 Oct. 1947
Displacement:	8,000 tons *standard* designed (10,000 tons *full load*)	
Dimensions:	Length: 571 (*pp.*), 590½ (*w.l.*), 597 (*o.a.*) feet. Beam: 54 feet. Draught: 19½ (*mean*), 21½ (*max.*) feet	
Guns:	*Göta Lejon:* 7—6 inch, 53 cal. Bofors AA., 4—57 mm. Bofors AA., 11—40 mm. Bofors AA. *Tre Kroner:* 7—6 inch, 53 cal. Bofors AA., 27—40 mm. Bofors AA.	
Tubes:	6—21 inch	
A/S weapons:	D.C.T.	
Armour:	Exceptionally well protected, 3″-5″ side	
Mines:	120	
Machinery:	2 sets De Laval geared turbines. 2 shafts. S.H.P.: 100,000=33 kts.	
Boilers:	4 Swedish 4-drum type	
Complement:	26 officers, 429 ratings (peace); 30 officers, 618 ratings (war)	

General Notes

The final contracts for these ships were not signed until Feb. 1943, the original design having been considerably modified in 1942. Cost was estimated at 74,000,000 kroner each. Radar control arrangements were installed for 6-inch guns. Fitted for minelaying. Both ships were reconstructed in 1951-52. *Göta Lejon* was modernised in 1958, with new radar, 57 mm. guns, etc., see photograph.

Gunnery Notes

The 6-inch guns are high angle anti-aircraft weapons with an elevation of 70 degrees and are automatic. The 9—25 mm. AA. pieces formerly mounted were suppressed in 1951 and 7—40 mm. AA. were weapons added.

Notes to Drawing

Port elevation and Plan. Scale: 128 feet=1 inch

Appearance Notes

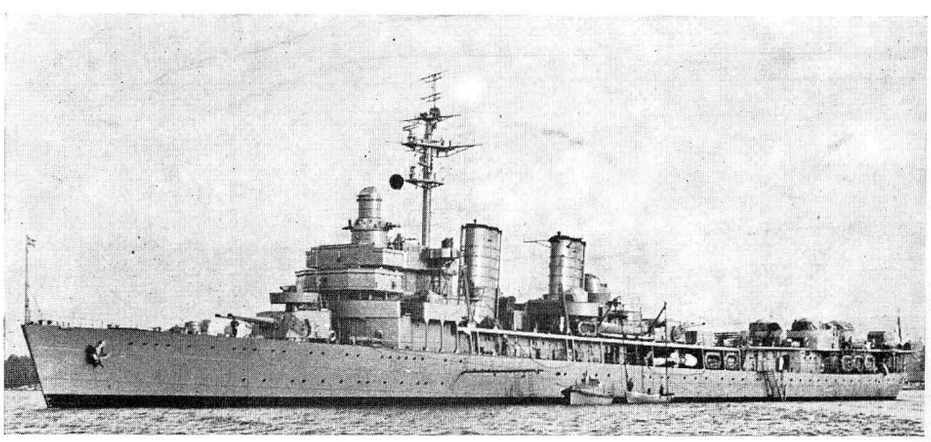
Light tripod masts have been stepped as shown in photos. Both ships now have an enclosed tower bridge structure.

Recent Disposals

The two surviving very old armoured ships *Drottning Victoria* and *Gustaf V*, rated as battleships (*Pansarekepp*) and coast defence ships (*Kustförsvarfartyg*), were discarded in 1958, it was officially stated. *Gustaf V* was still used as an accommodation ship in 1960.

ANTI-AIRCRAFT CRUISER

GOTLAND



GOTLAND

Royal Swedish Navy, Official

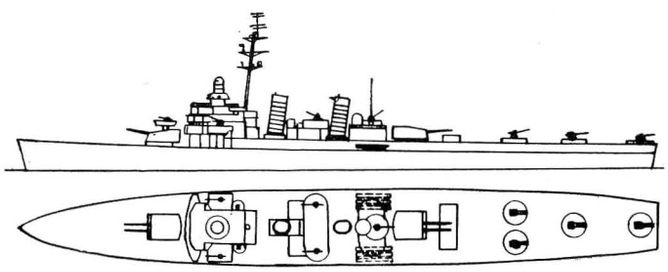
Builders:	Götaverken, Göteborg
Laid down:	1930
Launched:	14 Sep. 1933
Completed:	Dec. 1934
Displacement:	4,750 tons *standard* (5,550 tons *full load*)
Dimensions:	Length: 426½ (*w.l.*), 437½ (*o.a.*) feet. Beam: 50½ feet. Draught: 16½ (*mean*), 18 feet (*max.*)
Guns (Bofors):	4—6 inch, 55 cal., 13—40 mm. AA., 2—25 mm. AA.
Tubes:	6—21 inch (in triple deck mountings)
Armour:	2″-1⅛″ deck, 1⅛″-⅝″ vertical bulkheads, 2″-1⅛″ turrets, 1⅛″ uptakes, 2⅛″-1⅛″ hoists and supports, 2″ C.T.
Machinery:	2 sets De Laval geared turbines. 2 shafts. Designed S.H.P.: 33,000=27·5 kts. (Trials, 34,000=28 kts.)
Boilers:	4 Penhoet
Oil fuel:	600 tons *normal*, 800 tons *max.*
Complement:	453 (400 to 460 as training ship)

General Notes

This ship was originally built as an aircraft-carrying cruiser (classed as *Flygplankryssare*) with a capacity of 11 seaplanes. Cost exceeded £900,000 by date of completion. Equipped for minelaying. Refitted and rearmed for duty as an anti-aircraft cruiser in 1944. Again refitted and re-armed in 1955. It was officially stated in 1959 that she is no longer employed as a Cadet's Seagoing Training Ship. In 1960 she was in reserve.

Gunnery Notes

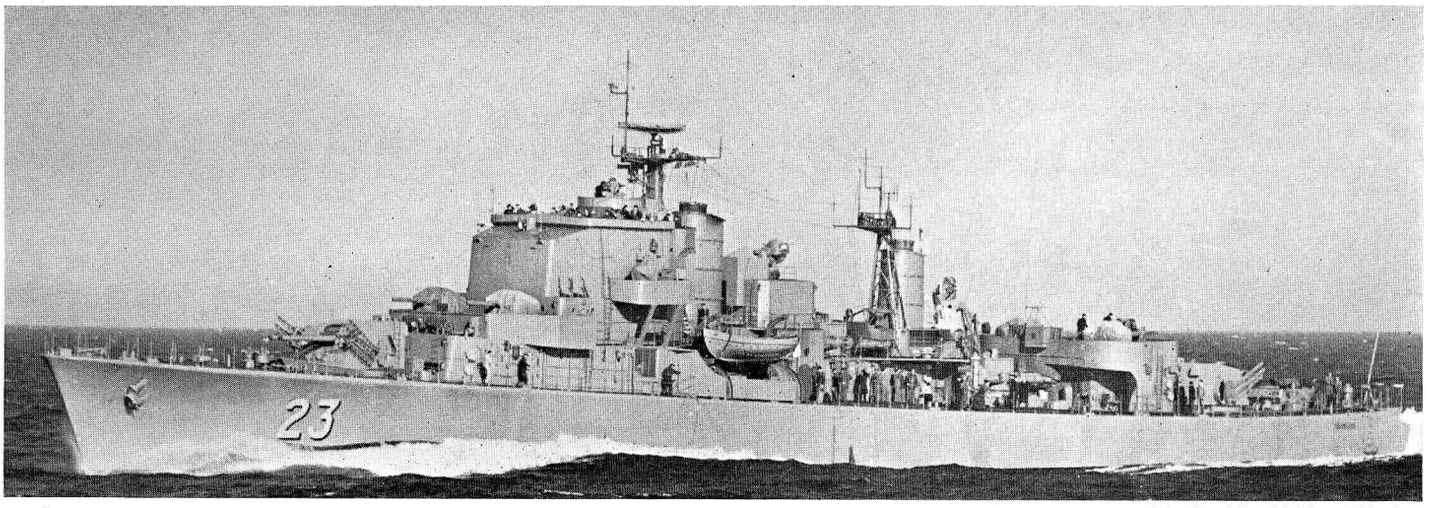
During the 1955 reconstruction the two single 6-inch guns abreast the bridge, the 4—3 inch guns and the 2—20 mm. AA. guns were suppressed, the 25 mm. AA. guns were reduced from 12 to 2, and the 40 mm. AA. guns were increased from 8 to 13.



Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

DESTROYERS (*Jagare*)



HÄLSINGLAND

1959, *Royal Swedish Navy, Official*

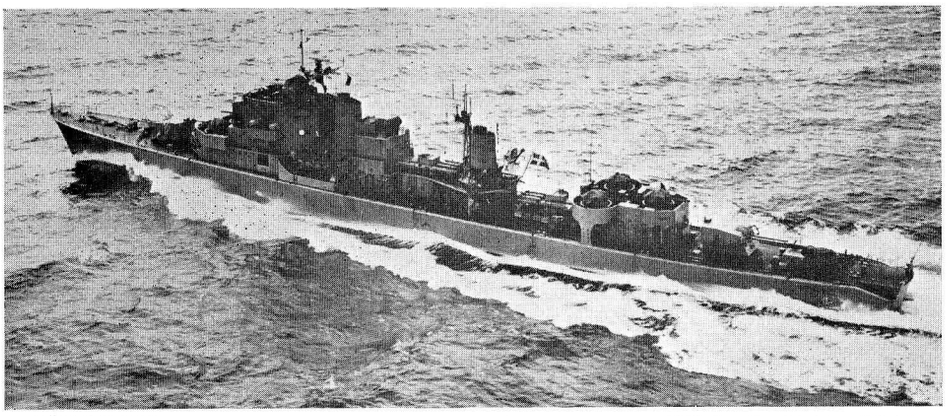
4 " Östergötland " Class

GÄSTRIKLAND **ÖSTERGÖTLAND**
HÄLSINGLAND **SÖDERMANLAND**

Displacement:	2,050 tons *standard* (2,600 tons *full load*)
Dimensions:	367½ (*pp.*), 380 (*o.a.*) × 36¾ × 12 feet
Guns:	4—4·7 inch, 7—40 mm. AA.
Tubes:	6—21 inch
A/S weapons:	Triple barrelled depth charge mortar
Mines:	60 (capacity) can be carried
Machinery:	De Laval turbines. 2 shafts. S.H.P.: 40,000=35 kts.
Boilers:	2 Babcock &W ilcox
Oil fuel:	330 tons
Radius:	2,200 miles at 20 kts.
Complement:	244

Pennant No.:	*Name*	*Builders:*
22	*Gästrikland*	Götavecken, Göteborg
23	*Hälsingland*	Kockums Mek, Verkstads A/B., Malmö
20	*Östergötland*	Götaverker, Göteborg
21	*Södermanland*	Eriksberg Mekaniska Verkstad, Göteborg

Name	*Laid down*	*Launched*	*Completed*
Gästrikland	Oct. 1955	6 June 1956	Aug. 1958
Hälsingland	Oct. 1955	14 Jan. 1957	Dec. 1958
Östergötland	Sep. 1955	8 May 1956	Oct. 1957
Södermanland	1 June 1955	28 May 1956	21 Mar. 1958



GÄSTRIKLAND

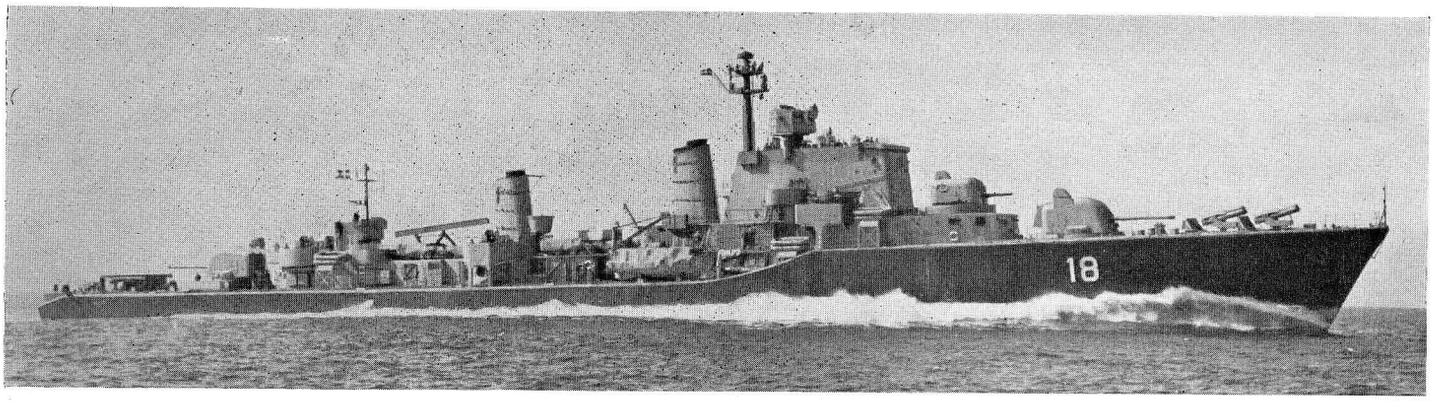
1959, *Royal Swedish Navy, Official*

General Notes

These ships have basically the same characteristics as the " Öland " class destroyers with appearance very similar to the " Halland " class destroyers, but have somewhat thinner funnels. They have improved anti-aircraft defence and anti-submarine weapons of the Bofors type.

Photograph Notes

Photographs of *Östergötland* and *Södermanland* appear in the 1958-59 edition.



HALLAND

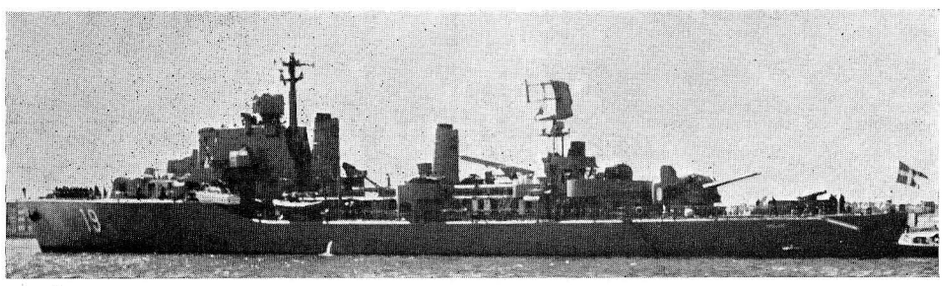
Added 1957, Official

2 " Halland " Class

HALLAND **SMÅLAND**

	Halland	*Smaland*
Name:		
Pennant No.:	18	19
Builders:	Götaverken, Göteborg	Eriksberg Mekaniska Verkstad, Göteborg
Ordered:	1948	1948
Laid down:	1951	1951
Launched:	16 July 1952	23 Oct. 1952
Completed:	1 Feb. 1955	12 Jan. 1956

Displacement:	2,650 tons *standard* (3,100 tons *full load*)
Dimensions:	380½ (*w.l.*), 397⅛ (*o.a.*) × 41 × 14¾ feet
Guns:	4—4·7 inch AA., 2—57 mm. AA., 6—40 mm. AA.
Tubes:	8—21 inch
Guided weapons:	1 rocket launcher
A/S weapons:	2 four-barrelled depth charge mortars
Mines:	Can be fitted for minelaying
Machinery:	De Laval double reduction geared turbines. 2 shafts. S.H.P.: 58,000=35 kts.
Boilers:	3
Oil fuel:	500 tons
Radius:	3,000 miles at 20 kts.
Complement:	290



SMÅLAND

1958, *Royal Swedish Navy, Official*

Notes

The first Swedish destroyers of post-war design and construction. These large destroyers have fully automatic gun turrets and ahead throwing anti-submarine weapons of the Bofors type, forward. It is officially stated that they will be equipped with guided missiles.

Cancellation Notes

Two sister ships, to have been named *Lappland* and *Värmland*, were cancelled in 1958, it was officially stated.

2 "Öland" Class

ÖLAND **UPPLAND**

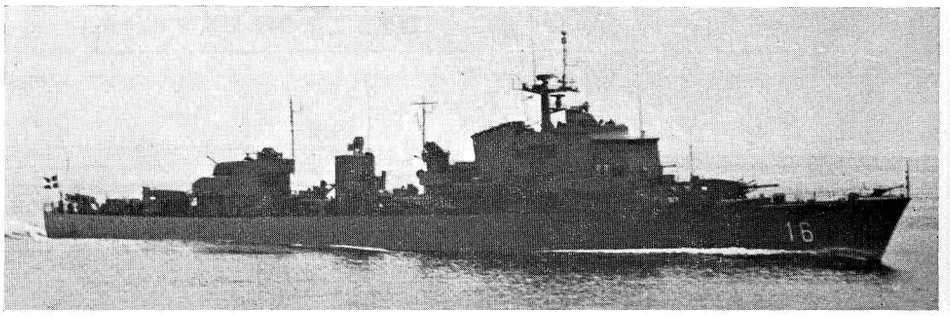
	Öland	*Uppland*
Name		
Pennant No.:	16	17
Builders:	Kockums Mek. Verkstads A/B., Malmö	Karlskrona Dockyard
Laid down:	1943	1943
Launched:	15 Dec. 1945	5 Nov. 1946
Completed:	1948	1947

Displacement: 1,880 tons *standard* (2,400 tons *full load*)
Dimensions: 351 (*pp.*), 364½ (*o.a.*) × 36¾ × 11¼ feet
Guns: 4—4·7 inch (d.p.), 7—40 mm. AA., 8—20 mm. AA.
Tubes: 6—21 inch (tripled)
Mines: 60
Machinery: De Laval geared turbines. 2 shafts. S.H.P.: 44,000=35 kts.
Boilers: 2 Penhoët
Oil fuel: 300 tons
Radius: 2,500 miles at 20 kts
Complement: 210

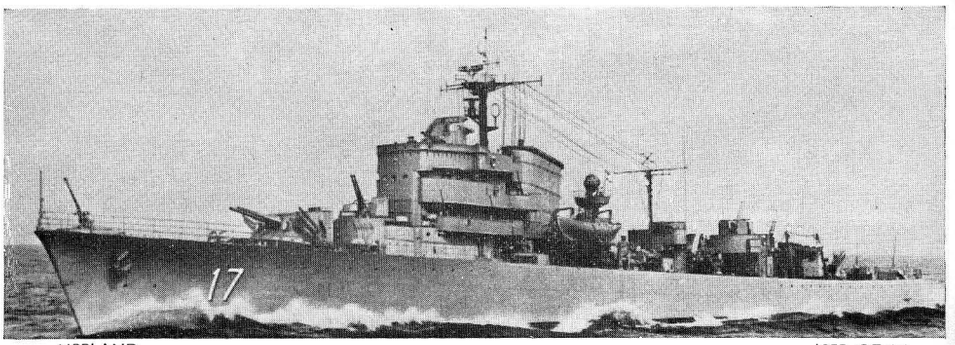
General Notes
The superstructure and machinery spaces are lightly armoured. Fitted for minelaying.

Gunnery Notes
The 4·7 inch guns are semi-automatic, with an elevation of 80 degrees.

Reconstruction Notes
Öland was modernised in 1959 with a new bridge, see new photograph above showing her silhouette after the reconstruction.



ÖLAND (after reconstruction) 1960, *Royal Swedish Navy, Official*



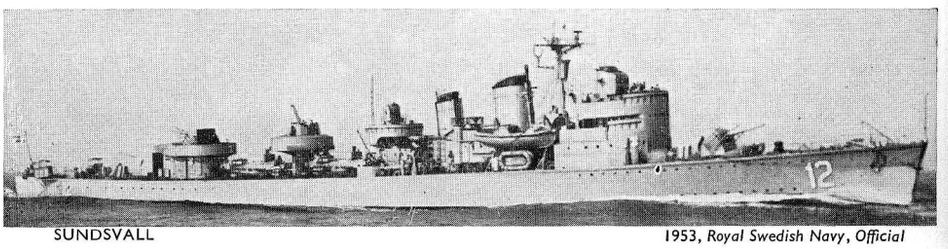
UPPLAND 1955, *Official*

4 "Visby" Class

HÄLSINGBORG **SUNDSVALL**
KALMAR **VISBY**

Displacement: 1,150 tons *standard* (1,320 tons *full load*)
Dimensions: 310 (*w.l.*), 320 (*o.a.*) × 30 × 12½ feet
Guns: 3—4·7 inch, 4—40 mm. AA., 4—20 mm. AA.
Tube: *Sundsvall* and *Visby*, 5—21 inch (quintupled), other two 6—21 inch (tripled)
A/S weapons: 2 D.C.T.
Machinery: De Laval geared turbine. 2 shafts. S.H.P.: 36,000=39 kts.
Boilers: 3, of 3-drum type
Oil fuel: 150 tons
Radius: 1,600 miles at 20 kts.
Complement: 140

General Notes
Kalmar was laid down on 16 Nov. 1942; *Visby* was laid down on 29 Apr. 1942. All fitted for minelaying.



SUNDSVALL 1953, *Royal Swedish Navy, Official*

Conversion Notes
It is officially stated that the "Visby" class will be converted into frigates, *Sundsvall* and *Visby* in 1960-63, and the other two in 1964-70.

No.	*Name*	*Builders*	*Launched*	*Completed*
13	*Hälsingborg*	Götaverken	23 Mar. 1943	1943
14	*Kalmar*	Eriksberg	20 July 1943	1944
12	*Sundsvall*	Eriksberg	20 Oct. 1942	1943
11	*Visby*	Götaverken	16 Oct. 1942	1943

5 "Göteborg" Class

GÄVLE **MALMÖ**
KARLSKRONA **NORRKÖPING**
STOCKHOLM

Displacement: 1,140 tons *standard* (1,300 tons *full load*)
Dimensions: 304 (*w.l.*), 310⅓ (*o.a.*) × 31⅞ (*Malmö*) 29½ × 12½ feet
Guns: 3—4·7 inch, 4—40 mm.
A/S weapons: 2 D.C.T. *Gävle* as refitted has 18 rocket launchers
Tubes: 6—21 inch (tripled)
Mines: 20 to 60
Machinery: De Laval geared turbines. 2 shafts. S.H.P.: 32,000=39 kts.
Boilers: 3 Penhoët
Oil fuel: 150 tons
Radius: 1,200 miles at 20 kts.
Complement: 130

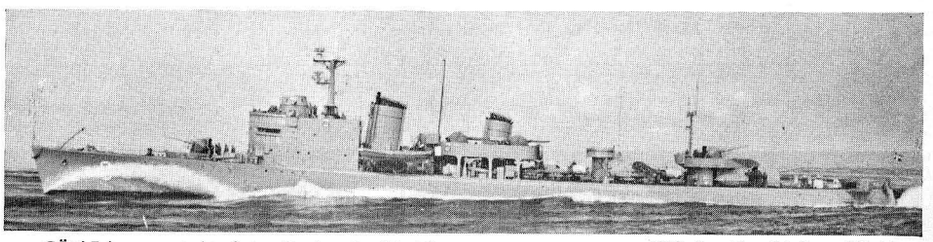
General Notes
Stockholm was laid down in 1933. She is now in reserve. *Gävle* has been refitted for anti-submarine warfare, and *Norrköping* has also been reconstructed (see photo).

Reconstruction Notes
As converted into fast anti-submarine escorts these destroyers have their close range anti-aircraft guns mounted on a bandstand enveloping the after funnel.

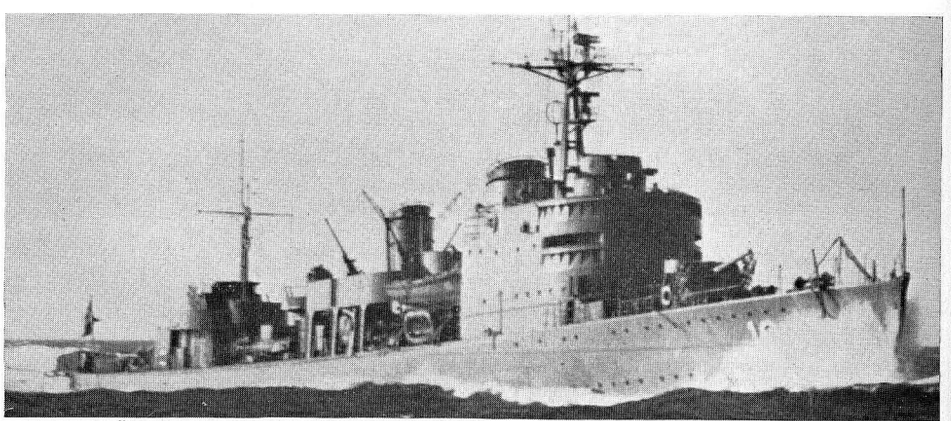
Conversion Notes
It is officially stated that the "Göteberg" class will not now be rebuilt as frigates, as it was originally intended, although they have already undergone some modification, bringing them near the frigate type.

No.	*Name*	*Builders*	*Launched*	*Completed*
9	*Gävle*	Götaverken	25 Sep. 1940	1941
8	*Karlskrona*	Karlskrona	16 June 1939	1940
7	*Malmö*	Eriksberg	22 Sep. 1938	1939
10	*Norrköping*	Eriksberg	5 Sep. 1940	1941
6	*Stockholm*	Karlskrona	24 Mar. 1936	1937

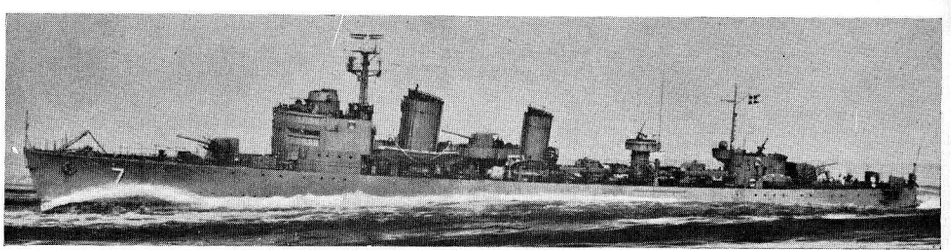
Recent Disposals
It was officially stated in 1958 that *Göteborg* of this class would be scrapped (on 17 Sep. 1941 she was sunk through an accidental explosion, but was subsequently salved and rebuilt, and on trials following her reconstruction, she was reported to have exceeded her original speed).
The older destroyer *Klas Horn* would be scrapped, it was officially stated in 1958.



GÄVLE (as converted to fast anti-submarine frigate) 1959, *Royal Swedish Navy, Official*



NORRKÖPING (after reconstruction) 1957, *Royal Swedish Navy, Official*



MALMÖ 1956, *Official*

FAST ANTI-SUBMARINE FRIGATES (ex-*Coastal Destroyers*). Rated as *Fregatter*

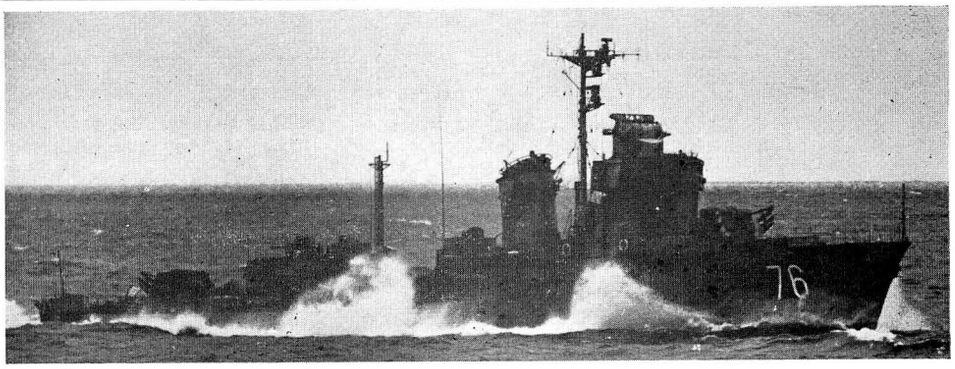
4 "Mjölner" Class

MAGNE **MJÖLNER**
MODE **MUNIN**

Displacement:	700 tons *standard* (900 tons *full load*)
Dimensions:	243¾ (*w.l.*), 256 (*o.a.*) × 26½ × 7½ feet
Guns:	2—4·1 inch AA., 2—40 mm. AA.
A/S weapons:	2 D.C.T.
Mines:	Fitted for minelaying
Machinery:	2 De Laval geared turbines. 2 shafts. S.H.P.: 16,000=30 kts.
Boilers:	2, of 3-drum type
Oil fuel:	190 tons
Radius:	1,260 miles at 20 kts.
Complement:	100

Name	*Pennant Nos.*	*Builders*	*Laid down*
Magne	74	Götaverken	Sep. 1941
Mode	73	Götaverken	Sep. 1941
Mjölner	76	Eriksberg	Sep. 1941
Munin	75	Öresundsvarvet	Sep. 1941

Name	*Launched*	*Completed*	*Converted*
Magne	25 Apr. 1942	1942	1955
Mode	11 Apr. 1942	1942	1955
Mjölner	9 Apr. 1942	1942	1956
Munin	27 May 1942	1942	1955



MJÖLNER 1960, *Royal Swedish Navy, Official*

General Notes

All these ships were formerly rated as seagoing torpedo boats or coastal destroyers (*kustjagare*). They were equipped for minelaying, but were all converted into fast anti-submarine frigates. Their original 3—21 inch torpedo tubes were removed.

Recent Disposals

The two coastal destroyers *Remus* (ex-*Astore*) and *Romulus* (ex-*Spica*), former Italian oceangoing torpedo boats, which were to have been converted into fast anti-submarine frigates, were towed away for breaking up in Aug. 1959.

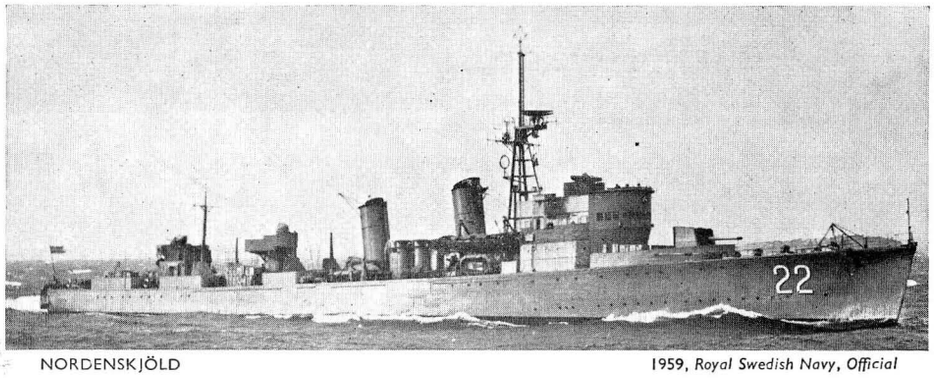
FAST ANTI-SUBMARINE FRIGATES (ex-*Destroyers*). Rated as *Fregatter*

2 "Ehrensköld" Class

EHRENSKÖLD **NORDENSKJÖLD**

Name:	*Ehrensköld*	*Nordenskjöld*
Pennant No.:	21	22
Builders:	Kockums Mek. Verkstads A/B, Malmö	Götaverken, Göteborg
Laid down:	1924	1924
Launched:	25 Sep. 1926	19 June 1926
Completed:	Dec. 1927	Sep. 1927

Displacement:	1,080 tons *standard* (1,250 tons *full load*)
Dimensions:	293 (*w.l.*) × 29¼ × 12½ (*max.*) feet
Guns:	1—4·7 inch, 4—40 mm. AA. 1—20 mm. AA.
A/S weapons:	D.C.T.
Mines:	Fitted for minelaying
Machinery:	Geared turbines, 2 shafts. S.H.P.: 24,000=30 kts.
Boilers:	2 Penhoët
Oil fuel:	170 tons
Radius:	1,600 miles at 20 kts.
Complement:	125



NORDENSKJÖLD 1959, *Royal Swedish Navy, Official*

Notes

Former destroyers converted into anti-submarine vessels in 1951 with new armament and submarine hunting and defence gear, and now officially rated as frigates. Pennant Nos. changed from 71 and 72 to 21 and 22, respectively, in 1959.

MINELAYER (*Minfartyg*) Cadets' Seagoing Training Ship

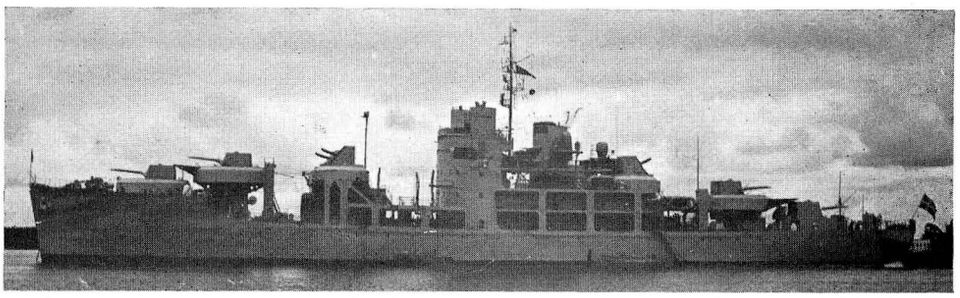
1 Auxiliary Type

ÄLVSNABBEN

Builders:	Eriksberg
Laid down:	Oct. 1942
Launched:	19 Jan. 1943
Completed:	Apr. 1943
Displacement:	4,000 tons *standard*
Dimensions:	317½ (*w.l.*), 334⅜ (*o.a.*) × 44½ × 16 feet
Guns:	4—6 inch, 8—40 mm. AA., 6—20 mm. AA.
Machinery:	Diesels. 1 shaft. Speed 14 kts.
Complement:	255

General Notes

This ship was completed on a mercantile hull in April 1943. She can be used as a Submarine Parent Ship or a Minesweeper Depot Ship. She was employed as a training ship during 1953-58, and she relieved the anti-aircraft cruiser *Gotland* as Cadets' Seagoing Training Ship in 1959.



ÄLVSNABBEN 1960, *Royal Swedish Navy, Official*

Recent Disposals

The old minelayer *Clas Fleming* was discarded in 1959, it is officially stated.

The radar training ship *Prins Carl* (ex-*Munin*) paid off and was discarded in 1960.

Cancellation Notes

It was officially stated in 1958 that the construction of a new minelayer, to have been named *Alvsborg* (Displacement: 2,000 tons; Guns: 5—57 mm. AA.; Mines: 250; Speed: 20 kts.) to replace the old *Clas Fleming*, has been cancelled.

SUBMARINE DEPOT SHIP (*Ubåts depåfartyg*)

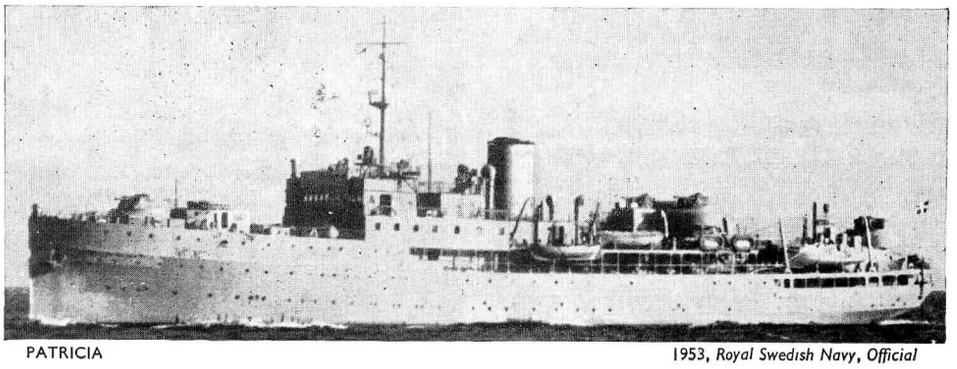
1 Mercantile Type

PATRICIA (ex-*Patris II*)

Builders:	Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne
Launched:	1926
Completed:	1926
Displacement:	4,950 tons *standard*
Dimensions:	335 × 47½ × 20 feet
Guns:	8—40 mm. AA., 2—20 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P. 2,900=15 kts.
Boilers:	2 oil fired
Complement:	500 (accommodation for)

Notes

Acquired in 1940. Was reconstructed to increase the accommodation for about 500 men and to maintain and administer nine submarines.



PATRICIA 1953, *Royal Swedish Navy, Official*

T

SUBMARINES (*Ubåtar*)

New Construction

3 "A 11" Class

Displacement: 700 tons
Machinery: New type

Notes

A new type of submarine is planned, at present called the "A 11" class, it was officially stated in 1958.

6 "Draken" Class

DELFINEN **GRIPEN** **SPRINGAREN**
DRAKEN **NORDKAPAREN** **VARGEN**

Displacement: 835 tons
Dimensions: 227 × 16½ × 16 feet
Machinery: Speed=16 kts. *surface*. 25 kts. *submerged*

Notes

These six submarines under construction, ordered or projected, will have fast-diving capabilities. *Delfinen* was launched in 1960, *Draken* on 1 Apr. 1960, *Gripen* on 31 May 1960, and *Vargen* on 20 May 1960.

Only three new submarines were authorised in the 1957 budget, instead of the requested six.

Draken means Dragon, *Gripen* means Griffon and *Vargen* means Wolf.

Distinctive letters painted on the conning tower are: De, *Delfinen*, Nd, *Nordkaparen*; Sp, *Springaren*.

6 "Hajen" Class

BÄVERN **ILLERN** **UTTERN**
HAJEN **SÄLEN** **VALEN**

Displacement: 785 tons
Dimensions: 216 × 16½ × 18 feet
Guns: 1—20 mm. AA.
Tubes: 4—21 inch (8 torpedoes)
Machinery: SEMT Pielstick diesels. Electric motors
Complement: 44

General Notes

All built by Kockums Mekaniska Verkstads Aktiebolag, Malmö, except *Valen* built by the Royal Swedish Naval Dockyard, Karlskrona.

Operational Notes

Equipped with Schnorkel, and have fast-diving capabilities.

Nomenclature Notes

Bävern means Beaver, *Hajen* means Shark, *Illern* means Polecat, *Sälen* means Seal, *Uttern* means Otter, and *Valen* means Whale.

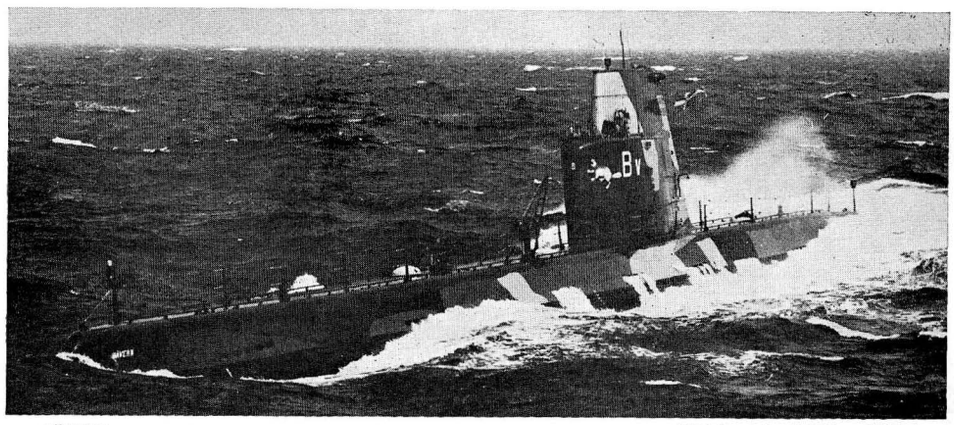
Appearance Notes

Distinctive letters painted on the conning tower are: Bv, *Bävern*; Hj, *Hajen*; In, *Illern*; Sa, *Sälen*; Ut, *Uttern*; Va, *Valen*.

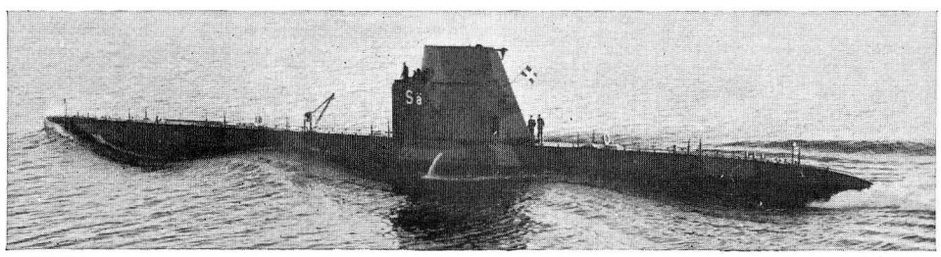
Photograph Notes

A photograph of *Hajen* appears in the 1957-58 to 1959-60 editions.

Name:	*Launched*	*Completed*
Hajen	11 Dec. 1954	1956
Valen	21 Apr. 1955	1957
Sälen	3 Oct. 1955	1957
Illern	14 Nov. 1957	1959
Bävern	3 Feb. 1958	1959
Uttern	June 1958	1960



BÄVERN — 1960, *Royal Swedish Navy, Official*



SÄLEN — 1959, *Royal Swedish Navy, Official*

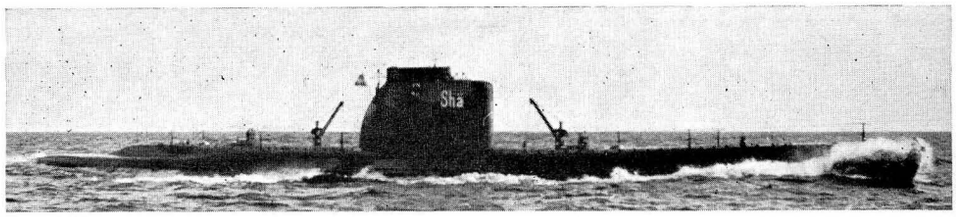
4 "Sjölejonet" Class

SJÖBJÖRNEN (15 Jan. 1938) Seabear
SJÖHÄSTEN (19 Oct. 1940) Seahorse
SJÖORMEN (5 Apr. 1941) Seaserpent
TUMLAREN (7 Sep. 1940) Porpoise

Displacement: 580 tons *standard*, 650 tons *surface*, 760 tons *submerged*
Dimensions: 204 × 20½ × 11 feet
Tubes: 6—21 inch
Machinery: 2 diesels. 2 shafts. B.H.P.: 3,000=16 kts. *surface*; 2 electric motors. H.P.: 2,000=10 kts. *submerged*
Complement: 32

General Notes

All built by Kockums Mek. Verkstads A/B., Malmö. Launch dates and meanings of names given above. Have all been streamlined and modernised.



SJÖHÄSTEN — 1960, *Royal Swedish Navy, Official*

Appearance Notes

Distinctive letters painted on the conning tower are: Sbj, *Sjöbjörnen*; Shä, *Sjöhasten*; Sor, *Sjöormen*; Tu, *Tumlaren*.

Recent Disposals

Of this class, *Dykaren* (Diver), *Sjöborren* (Seaurchin), *Sjöhunden* (Seadog), *Sjölejonet* (Sealion) and *Svärdfisken* (Swordfish) were stricken in 1960 and are being scrapped.

3 "Najad" Class

NÄCKEN **NAJAD** **NEPTUN**

Displacement: 550 tons *standard*, 600 tons *surface*, 720 tons *submerged*
Dimensions: 200 × 20⅔ × 10 feet
Tubes: 4—21 inch
Mines: 20. Fitted for minelaying
Machinery: 2 Diesels. 2 shafts. B.H.P.: 3,000=16 kts. *surface*; 2 electric motors, H.P.: 2,000=10 kts. *submerged*
Complement: 32

Notes

All provided under the 1938 programme. These three minelaying submarines were all built by Kockums Mekaniska Verkstads Aktiebolag, Malmo. *Näcken* means Neck, *Najad* means Najad, and *Neptun* means Neptune.

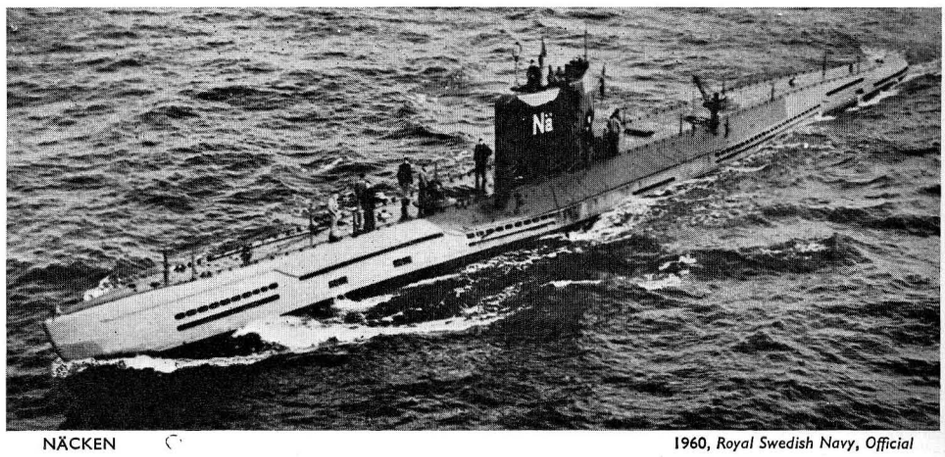
Appearance Notes

Distinctive letters painted on conning tower are: Nä, *Näcken*; Nj, *Najad*; Np, *Neptun*.

Photograph Notes

A photograph of *Neptun* appears in the 1952-53 to 1959-60 editions.

Name	*Laid down*	*Launched*	*Completed*
Näcken	Nov. 1941	26 Sep. 1942	Mar. 1943
Najad	Feb. 1942	26 Sep. 1942	May 1943
Neptun	Mar. 1942	17 Nov. 1942	June 1943



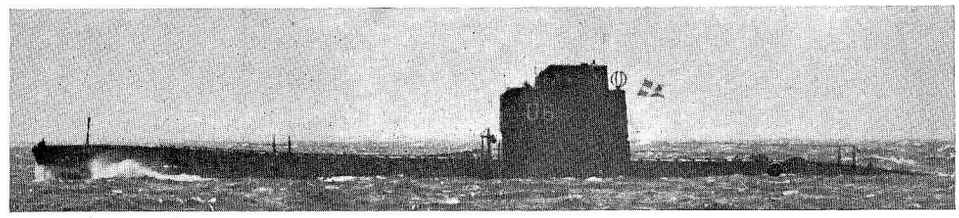
NÄCKEN — 1960, *Royal Swedish Navy, Official*

Submarines—*continued*

7 "U" Class

U 2 (16 May 1942)
U 3 (11 June 1942)
U 4 (5 June 1943)
U 5 (8 July 1943)
U 6 (18 Aug. 1943)
U 8 (25 Apr. 1944)
U 9 (23 May 1944)

Displacement:	367 tons *standard*, 400 tons *surface*, 430 tons *submerged*
Dimensions:	155½ (*w.l.*) × 17½ × 14 feet
Tubes:	4—21 inch (3 bow, 1 stern)
Machinery:	2 MAN diesels. B.H.P.: 1,500 = 14 kts. *surface*. Electric motor. H.P.: 750 = 9 kts. *submerged*
Complement:	23



U 6 — 1960, *Royal Swedish Navy, Official*

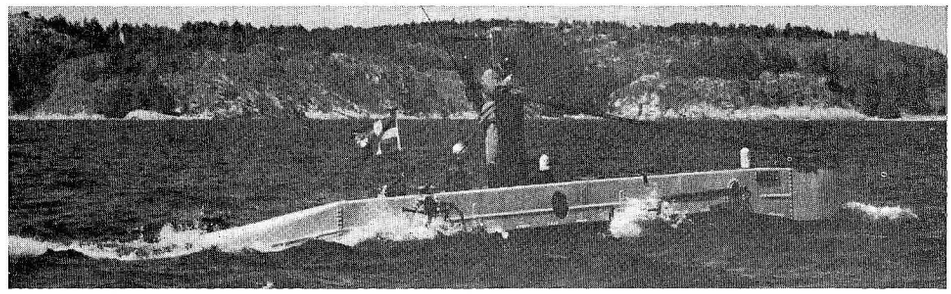
Notes
All built by Kockums Mek. Verkstads, Malmö (*U* 4, *U* 5, *U* 6), and by Karlskrona Naval Dockyard (*U* 2, *U* 3, *U* 8, *U* 9). Launch dates above. All have been streamlined (see photograph above). Rated as kustubätar. (coastal submarines)

Recent Disposals
Of this class *U* 1 and *U* 7 were stricken from the list in 1960 and are being scrapped.

1 Ex-British "Midget" Type

SPIGGEN (ex-*Stickleback*, X 51)

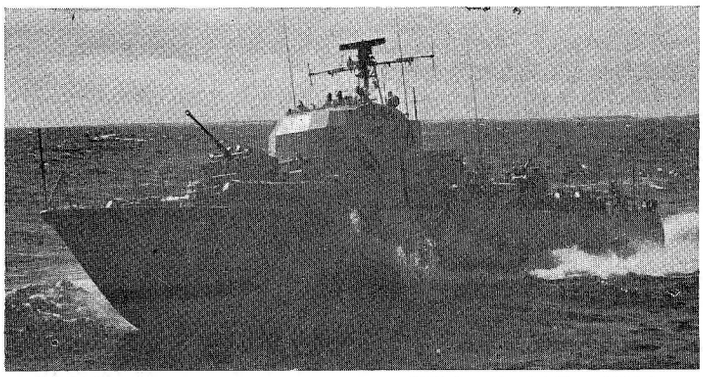
Displacement:	30 tons *surface*, 35 tons *submerged*
Dimensions:	50¾ (*pp.*) 53¾ (*o.a.*) 6½ × 7½ feet
Machinery:	Perkins 6-cyl. diesels. 7 kts. *surface*, Electric motors 6 kts. *submerged*.
Complement:	5



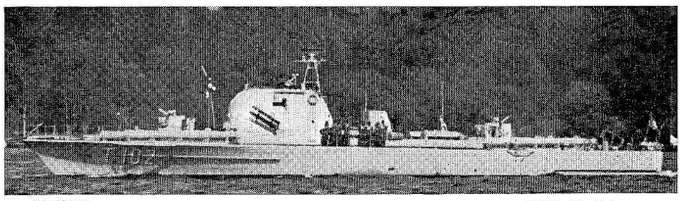
SPIGGEN — 1960, *Royal Swedish Navy, Official*

Notes
Former British X-craft. Built by Vickers-Armstrongs. Ltd., Barrow. Launched on 1 Oct. 1954. Refitted in 1957-58, Purchased by the Swedish Government. Transferred from Great Britain to Sweden on 15 July 1958. "Spiggen" is actually the Swedish equivalent of "Stickleback".

MOTOR TORPEDO BOATS (*Motortorpedbåtar*)



ANTARES — 1960, *Royal Swedish Navy, Official*



PLEJAD — 1959, *Ossi Janson*

New Construction

Notes
Sweden is planning a new motor torpedo boat of an improved "Aldebaran" type. A marine Proteus gas turbine engine of 4,250 S.H.P. has been ordered from British Siddeley Engines.

12 M.T.B.—M.G.B. Convertibles

ALDEBARAN (T 107)
ALTAIR (T 108)
ANTARES (T 109)
ARCTURUS (T 110)
ARGO (T 111)
ASTREA (T 112)
PERSEUS (T 101)
PLEJAD (T 102)
POLARIS (T 103)
POLLUX (T 104)
REGULUS (T 105)
RIGEL (T 106)

Displacement:	155 tons (*Perseus* 140 tons) *standard* (170 tons *full load*)
Dimensions:	157½ × 18½ feet (*Perseus* 147⅔ × 19 feet)
Guns:	2—40 mm. Bofors AA.
Tubes:	6—21 inch (2 forward, 4 aft), *Perseus* 4—21 inch
Machinery:	3 Daimler-Benz diesels. 3 shafts. B.H.P.: 7,800 = 37·5 kts. (*Perseus* 40 kts.)
Range:	600 miles at 30 kts.
Complement:	33

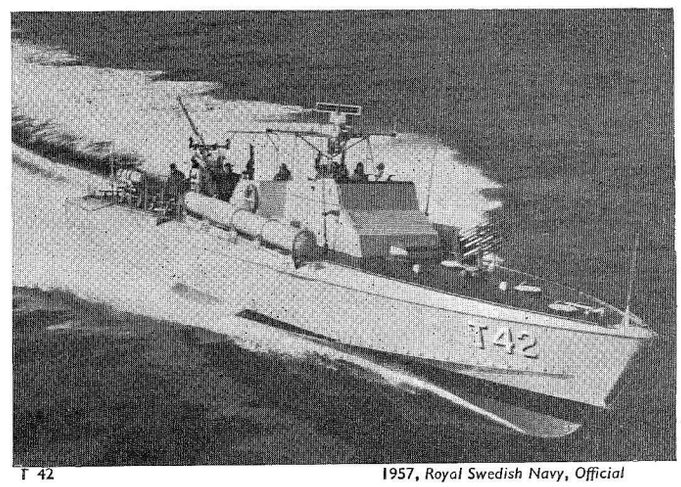
Notes
Perseus, built at Karlskrona, was launched in 1950, and completed in 1951, the first of a new convertible type of motor torpedo boat and motor gunboat of experimental design, re-engined with Götaverken machinery to give much greater power. She differs slightly in appearance from the other boats of this group, but her funnel has been removed. The remaining eleven, built at Lürssen, Vegesack, were launched between 1954 and 1959 and all completed by 1960.

1 Special Type

T 41

Displacement:	45 tons *standard*
Dimensions:	75½ × 18¾ × 6 feet
Guns:	1—40 mm. Bofors AA.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes
Provided under the 1952 Programme. Built by Kockums M.V., Malmö. Launched and completed in 1952.



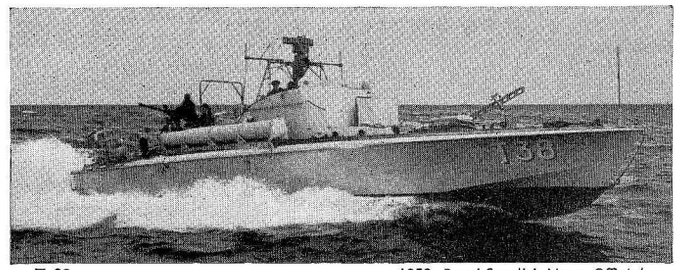
T 42 — 1957, *Royal Swedish Navy, Official*

15 "T 42" Type

T 42 **T 43** **T 44** **T 45** **T 46** **T 47** **T 48** **T 49** **T 50** **T 51** **T 52** **T 53** **T 54** **T 55** **T 56**

Displacement:	40 tons *standard*
Dimensions:	75½ × 17 × 5 feet
Guns:	1—40 mm. Bofors AA.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes
Built by Kockums M.V., Malmö. All launched between 1956 and 1959 and completed by 1960.



T 38 — 1953, *Royal Swedish Navy, Official*

9 Medium Type

T 32 **T 33** **T 34** **T 35** **T 36** **T 37** **T 38** **T 39** **T 40**

Displacement:	40 tons *standard*
Dimensions:	75½ × 17 × 4½ feet
Guns:	1—40 mm. Bofors AA.
Tubes:	2—21 inch
Machinery:	Speed = 40 kts.

Notes
Launched in 1951-52. Of improved T 31 design. Built by Kockums Mekaniska Verkstads Aktiebolag, Malmö. Of all welded steel construction.

Recent Disposals
Of the small type of motor torpedo boats, T 21, T 22, T 23, T 24, T 25, T26 and T 27 were scrapped in 1959, and T 28, T 29, T 30 and T 31 were scrapped in 1960. The older motor torpedo boats, T 15, T 16, T 17 and T 18 were discarded in 1957.

COASTAL MINESWEEPERS



ARKÖ — 1959, *Royal Swedish Navy, Official*

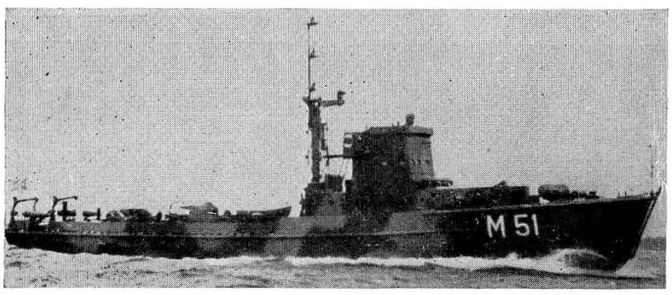
12 "Arkö" Class

ARKÖ (M 57) **HASSLÖ** (M 64) **NÄMDÖ** (M 67) **STYRSÖ** (M 61)
ASPÖ (M 63) **IGGÖ** (M 60) **SKAFTO** (M 62) **VALLÖ** (M 66)
BLIDÖ (M 68) **KARLSÖ** (M 59) **SPARÖ** (M 62) **VINÖ** (M 65)

Displacement:	300 tons *standard*
Dimensions:	131 (*pp.*), 137¾ (*o.a.*) × 23 × 8 feet
Guns:	2—40 mm. AA.
Machinery:	Diesels. Speed = 14·5 kts.

Notes

Basically similar to "Hanö" class below. *Arkö* was launched on 21 Jan. 1957. *Arkö*, *Karlsö* and *Sparö* were completed in 1957, *Iggo* in 1960.



HANÖ — 1954, *Royal Swedish Navy, Official*

6 "Hanö" Class

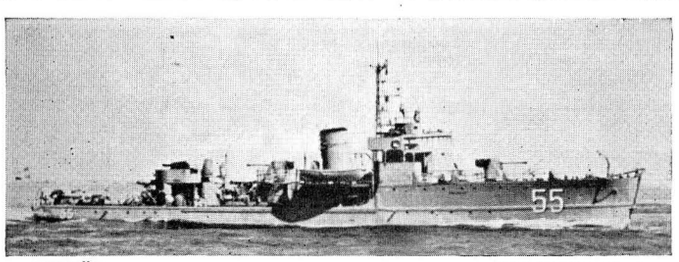
HANÖ (M 51) **STURKÖ** (M 54) **TJURKÖ** (M 53)
ORNÖ (M 55) **TÄRNÖ** (M 52) **UTÖ** (M 56)

Displacement:	270 tons *standard*
Dimensions:	131¼ × 23 × 8 feet
Guns:	2—40 mm. AA.
Machinery	Speed: 14·5 kts.

Notes

Of wooden construction. All the minesweepers of this class were launched in 1953-54.

MINESWEEPERS



BREMÖN — *Added 1957, Official*

11 "Bredskär" Class

3 *Eriksberg* — 2 *Lindholmen* — 2 *Oskarshamn*

BREDSKÄR 59 (12 Dec. 40) **ÖRSKÄR** 62 (31 Mar. 41) **SANDÖN** 57 (15 Aug. 40)
BREMÖN 55 (18 June 40) **RAMSKÄR** 61 (28 Oct. 40) **ULVÖN** 58 (29 Apr. 41)
HOLMÖN 56 (5 Sep. 40)

1 *Finnboda* — 1 *Götaverken* — 2 *Öresundsvarvet*

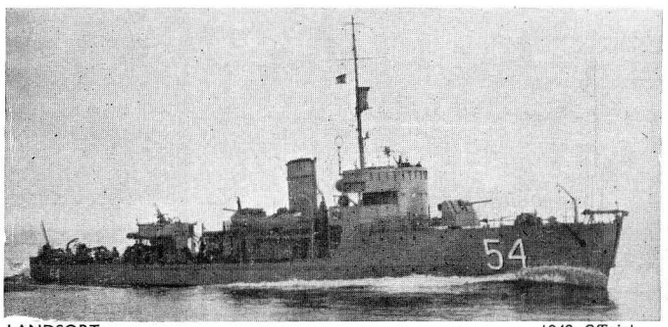
GRÖNSKÄR 60 (30 Oct. 40) **VINGA** 65 (7 Oct. 40) **KOSTER** 63 (10 Oct. 40)
KULLEN 64 (29 Oct. 40)

Displacement:	430 tons *standard* (530 tons *full load*)
Dimensions:	180 (*pp*), 187 (*o.a.*) × 25 × 7 feet
Guns:	2—4·1 inch, 2—25 mm. AA.
Machinery:	De Laval geared turbines. S.H.P.: 3,200 = 17 kts.
Boilers:	2 Vanson
Oil fuel:	70 tons
Complement:	37

Notes

Otherwise of similar design to *Landsort* (see above). All completed in 1940-41. Builders and launch dates above. Pennant numbers are shown after names. Fitted for minelaying.

Minesweepers—*continued*



LANDSORT — 1949, *Official*

1 "Arholma" Class

LANDSORT

Displacement:	430 tons *standard* (500 tons *full load*)
Dimensions:	178¾ (*w.l.*), 186 (*o.a.*) × 24¾ × 7 (*max.*) feet
Guns:	2—4·1 inch, 2—25 mm. AA., 2 M.G.
A/S weapons:	2 D.C.T.
Mines:	Fitted for minelaying
Machinery:	De Laval geared turbines. S.H.P.: 3,200 = 17 kts.
Boilers:	2 Penhoët
Oil fuel:	60 tons
Complement:	37

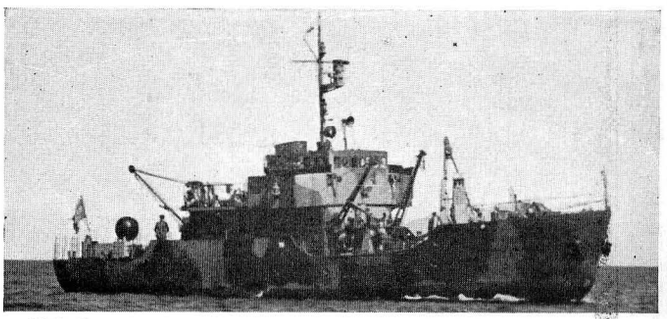
Notes

Built at Karlskronä Dockyard. Launched on 26 Nov. 1937. Pennant No. 54.

Recent Disposals

Of the "Bredskar" class, the *Ven* was scrapped in 1960 it is officially stated.
Of the "Arholma" class, the *Arholma* was scrapped in 1959.
Of the four old minesweepers of the "Jägaren" class, the *Snapphanen* was transferred to the new Guatemalan Navy in 1959, and the *Jägaren*, *Kaparen* and *Vaktaren* were scrapped, it was officially stated, in 1958.

MINING TENDERS (*Minutläggare*)



MUL 12 — 1956, *Royal Swedish Navy, Official*

MUL 16 **MUL 17** **MUL 18** **MUL 19**

Displacement:	230 tons *standard*
Dimensions:	101¾ × 25 × 6 feet
Guns:	1—40 mm.
Machinery:	1 Diesel-electric B.H.P.: 360 = 10·5 kts.

Notes

Launched in 1956. Completed in 1957. Of similar appearance to *MUL* 12.

MUL 14, MUL 15 (1953) **MUL 12, MUL 13** (1952)

Displacement:	200 tons *standard*
Dimensions:	95 × 24½ × 6 feet
Guns:	1—40 mm.
Machinery:	1 Diesel-electric. B.H.P.: 360 = 10·5 kts.

MUL 11 (1946)

Displacement:	175 tons *standard*
Dimensions:	88½ × 23⅔ × 5 feet
Guns:	2—20 mm.
Machinery:	2 diesels. Speed: 10 kts.

MUL 10 (1939)

Displacement:	158 tons *standard*
Dimensions:	82 × 18⅓ × 5 feet
Guns:	4 M.G.
Machinery:	Diesel. Speed: 9·5 kts.

Notes

Launch dates above. Manned by Coast Artillery personnel. *MUL* 7 was discarded in 1954. *MUL* 8 was discarded in 1955. *MUL* 3 and *MUL* 9 were discarded in 1956.

PATROL VESSELS (Trawler Type)

2 "Granat" Class

GRANAT **HARPUN**

Displacement:	400 tons *standard*
Dimensions:	111½ × 23 × 14 feet
Guns:	1—57 mm.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 750 = 10 kts.

Notes

Coast artillery patrol vessels. Launched in 1925. Both vessels are converted Norwegian trawlers.

Recent Disposals

The coast artillery patrol vessels *Krut* and *Kanon*, converted Norwegian trawlers, were sold out of the service in 1959.

INSHORE MINESWEEPERS



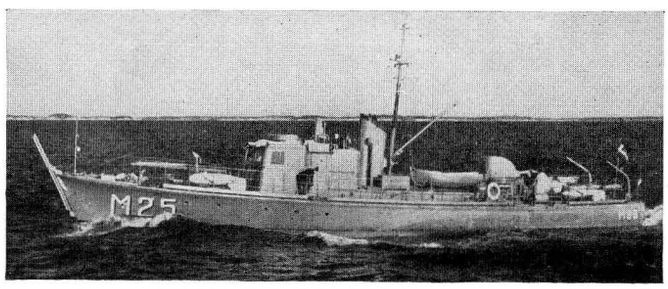
TJÖRN 1957, *Royal Swedish Navy Official*

6 "Orust" Class

BLACKAN **GALTEN** **ORUST**
DÄMMAN **HISINGEN** **TJÖRN**

Displacement:	100 tons *standard*
Dimensions:	62½ × 19 × 4½ feet
Guns:	2—25 mm. AA.
Machinery:	2 diesels. B.H.P.: 600=7 kts.

Notes
Orust and *Tjörn* were launched in 1948. Of the fishing cutter type. *Blackan*, *Dämman*, *Galten* and *Hisingen* will be completed in 1961.



M 25 1953, *Royal Swedish Navy, Official*

12 Large Motor Launch Type

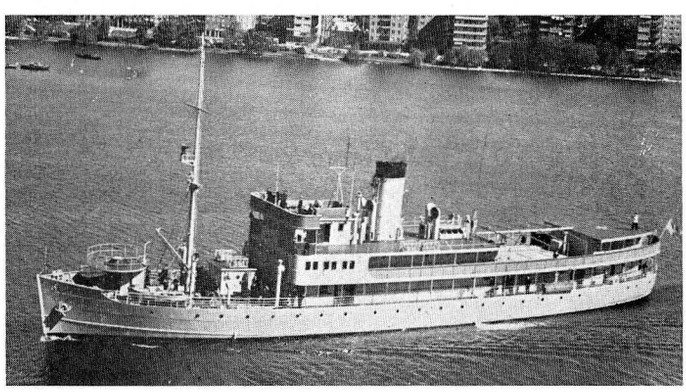
M 15 **M 17** **M 19** **M 21** **M 23** **M 25**
M 16 **M 18** **M 20** **M 22** **M 24** **M 26**

Displacement:	70 tons *standard*
Dimensions:	85⅓ × 16½ × 4½ feet
Guns:	1—20 mm.
Machinery:	Diesel. B.H.P.: 600=13 kts.

Notes
All launched in 1941. Inshore minesweepers of the large motor launch type.

Recent Disposals
Of the inshore minesweepers of the medium motor launch type, M 1 and M 2 were scrapped in 1953, M 3, M 4, M 5 and M 6 were converted into inshore surveying vessels (see later page), and M 7, M 8, M 9, M 10, M 11, M 12, M 13 and M 14 were stricken in 1960 (M 9 and M 10 not before 1 Oct.), although some may also be taken over as surveying vessels.

STAFF SHIP (*Stabsfartyg*)



MARIEHOLM (after conversion with helicopter platform) 1959, *Official*

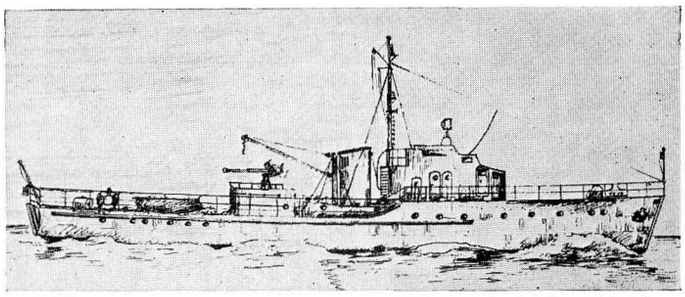
Converted Type

MARIEHOLM

Displacement:	1,445 tons *standard*
Dimensions:	210 × 32½ × 14 feet
Guns:	2—40 mm. AA.
Machinery:	Speed: 12 kts.

Notes
Former passenger ship Completed in 1934. Converted during the Second World War to serve as a Base Communication Centre for the Commander-in-Chief of the Active Fleet. Recently used as a Staff Ship for the Commander-in-Chief in winter time, flying his flag. The ship had her mainmast removed and a helicopter platform installed aft in 1959 for employment as flagship of the Active Fleet (the "Coast Fleet"). The 40 mm. Bofors on the forecastle has been landed for the time being.

PATROL BOATS (*Vedettbåtar*)



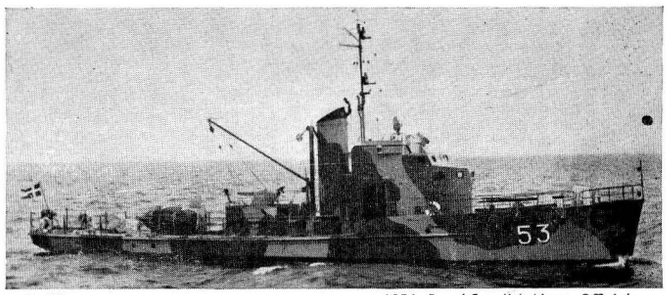
V 57 1958, *Royal Swedish Navy, Official*

1 Diesel "V" Class

V 57

Displacement:	125 tons *standard*
Dimensions:	98 (*pp.*), 105 (*o.a.*) × 17½ × 5¾ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 500=12 kts.
Complement:	12

Notes
Built at Stockholm. Launched in 1953. Fitted for minelaying. Manned by the Coast Artillery.



V 53 1956, *Royal Swedish Navy, Official*

6 Steam "V" Class

V 51 (1944) **V 53** (4 Dec. 1944) **V 55** (19 Sep. 1944)
V 52 (4 Oct. 1945) **V 54** (4 Oct. 1945) **V 56** (2 Aug. 1945)

Displacement:	125 tons *standard*
Dimensions:	98 × 17½ × 6 feet
Guns:	1—20 mm. 1 M.G.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 400=12 kts
Boiler:	1 Watertube (coal-burning)

Notes
Launch dates above. All the above boats are manned by the Coast Artillery. The old ex-torpedo boats V 5, V 8 and V 14 were discarded in 1957.

5 SVK Type Launches

SVK 1 **SVK 2** **SVK 3** **SVK 4** **SVK 5**

Displacement:	19 tons
Dimensions:	55¾ × 12 × 4 feet
Guns:	1—20 mm. AA.
Speed:	11 kts.

Notes
Patrol launches of the Sjövärnskarens type. All launched in 1944. Sjövärnskaren=R.N.V.R. *Tumlaren*, a small fishing cutter, also belongs to the SVK.

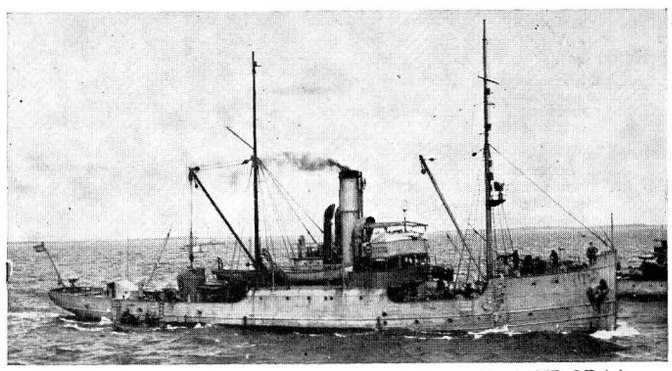
SALVAGE VESSELS (*Bärgningsfartyg*)

New Construction

BELOS

Displacement:	1,000 tons *standard*
Dimensions:	204 × 27 × 12 feet
Aircraft:	1 helicopter
Machinery:	Speed=13 kts.

Notes
A new salvage vessel under construction will succeed the old *Belos* (see below) next year and will take her name.



BELOS *Added* 1957, *Official*

BELOS

Displacement:	755 tons
Dimensions:	167¾ × 26 × 13½ feet
Guns:	1—20 mm. AA.
Machinery:	Compound. I.H.P.: 890=11 kts.

Notes
Launched in 1885. Acquired in 1941. For Diving and Submarine Rescue. Equipment includes diving chamber and apparatus for raising sunken submarines.

SURVEYING VESSELS (*Sjömätningsfartyg*)

1 New Construction

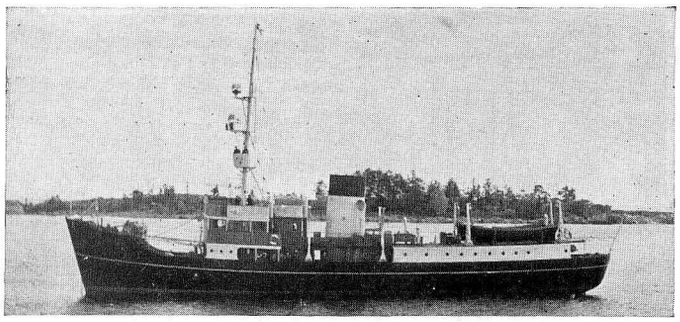
Displacement: 250 tons *standard*

Notes
A new surveying vessel is under construction to replace *Svalan* in the near future.

RAN

Displacement: 285 tons *standard*
Dimensions: 98½ × 23 × 8½ feet

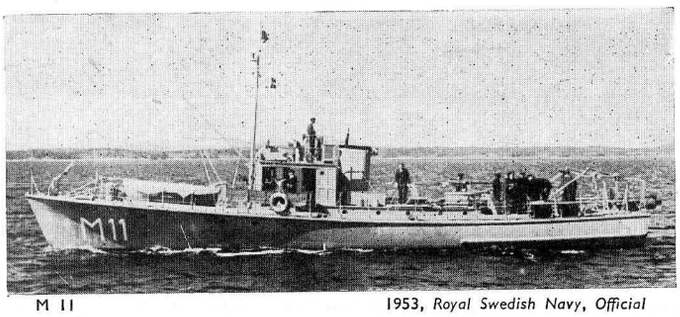
Notes
Ran was launched in 1945.



GUSTAF AF KLINT — 1953, *Royal Swedish Navy, Official*

GUSTAF AF KLINT (1941)

Displacement: 650 tons *standard*
Dimensions: 154 × 28½ × 15½ feet
Machinery: Diesel. Speed = 10 kts.



M 11 — 1953, *Royal Swedish Navy, Official*

4 Medium Motor Launch Type

GRISSLAN (ex-*M* 6) **MÅSEN** (ex-*M* 3) **SVÄRTAN** (ex-*M* 5) **TÄRNAN** (ex-*M* 4)

Displacement: 50 tons *standard*
Dimensions: 78¾ × 16½ × 4½ feet
Machinery: Diesel. B.H.P.: 400 = 13 kts.

Notes
Former inshore minesweepers of the motor launch type, launched in 1940 and subsequently converted into surveying vessels.

KOMPASS (1938)

Displacement: 50 tons *standard*
Dimensions: 55¾ × 17¾ × — feet
Machinery: Speed: 7·5 kts.

JOHAN NORDENANCKAR (1924)

Displacement: 260 tons *standard*
Dimensions: 98½ × 22½ × 8½ feet
Machinery: Speed: 8 kts.

PETTER GEDDA (1924)

Displacement: 135 tons *standard*
Dimensions: 82 × 18 × 7 feet
Machinery: Speed: 6 kts.

EJDERN (1916)

Displacement: 95 tons *standard*
Dimensions: 78¾ × 15¾ × 7½ feet
Machinery: Speed: 8 kts.

NILS STROMORONA (1894)

Displacement: 140 tons *standard*
Dimensions: 90 × 17 × 8½ feet
Machinery: Speed: 9 kts.

SVENSKUND (1891)

Displacement: 415 tons *standard*
Dimensions: 124¾ × 26 × 12 feet
Guns: 2—57 mm., 1—20 mm.
Machinery: H.P.: 400 = 12 kts.
Coal: 50 tons

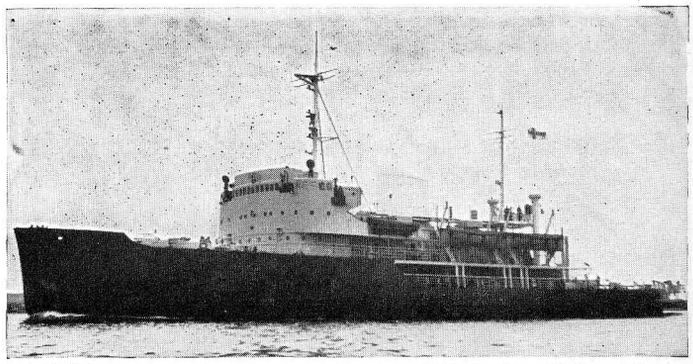
Notes
This vessel was formerly a gunboat launched in 1891. She was reconstructed in 1942.

SVALAN (1881)

Displacement: 140 tons *standard*
Dimensions: 101⅔ × 17½ × 9 feet
Machinery: Speed: 8 kts.

General Notes
Launch date in parentheses above. *Svalan* is to be replaced by a new surveying vessel in the near future.

ICEBREAKERS (*Isbrytarfartyg*)

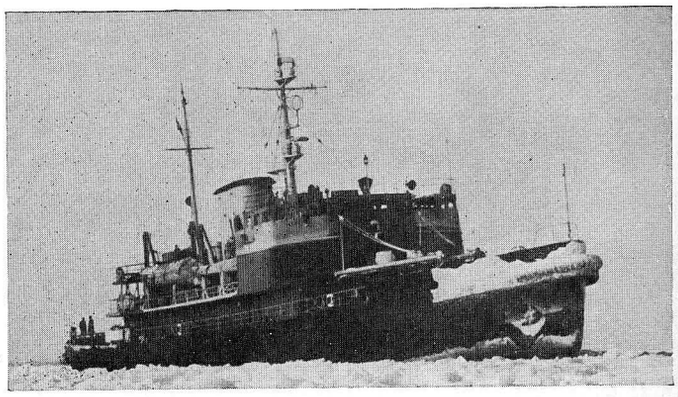


ODEN — 1958, *Royal Swedish Navy, Official*

ODEN

Displacement: 5,260 tons *standard*
Dimensions: 256 (*pp.*), 273½ (*o.a.*) × 63⅔ × 23 feet
Machinery: Diesel-electric. 4 shafts. B.H.P.: 10,500 = 17 kts.
Oil fuel: 740 tons
Complement: 75

Notes
Similar to Finnish *Voima* and three Russian. Four screws, two forward, two aft. Built at Sandviken, Helsingfors, to replace *Atle*. Launched on 16 Oct. 1956. Completed in 1958. Another is planned to replace *Ymer*.

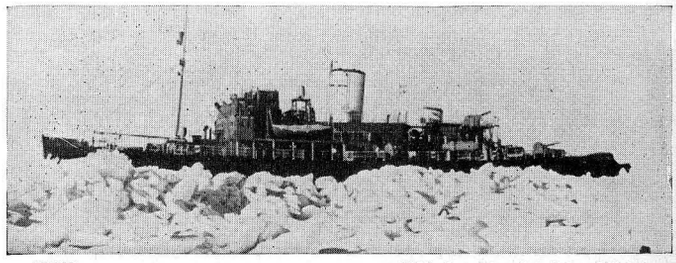


THULE — 1955, *Royal Swedish Navy, Official*

THULE

Displacement: 2,200 tons *standard*
Dimensions: 187 (*w.l.*), 204¼ (*o.a.*) × 50 × 17⅔ (*max.*
Machinery: Diesel-electric. 3 shafts (1 forward). B.H.P.: 4,800 = 16 kts.
Complement: 43

Notes
Built at the Royal Swedish Naval Dockyard, Karlskrona. Launched in 1951. Completed in 1953.

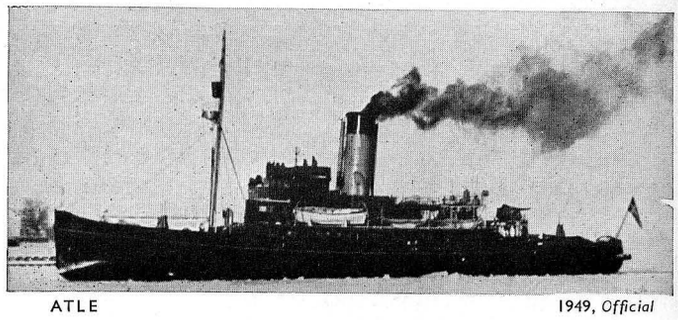


YMER — 1953, *Royal Swedish Navy, Official*

YMER

Displacement: 4,330 tons *standard*
Dimensions: 240 (*w.l.*), 258 (*o.a.*) × 63⅛ × 21 feet
Guns: 4—3 inch AA., 1—40 mm. AA., 4—25 mm. AA.
Machinery: 6 Atlas diesels driving electric generators. H.P.: 9,000 = 16 kts.
Complement: 44

Notes
Built by Kockums M.V. A/B., Malmö. Launched in 1933. *Ymer* was the first large icebreaker to be given Diesel-electric propulsion. She was designed to carry a seaplane for ice spotting and survey purposes.



ATLE — 1949, *Official*

ATLE

Displacement: 1,750 tons *standard* (2,740 tons *full load*)
Dimensions: 194½ (*w.l.*), 207 (*o.a.*) × 55¾ × 20½ feet
Guns: 4—57 mm. AA., 4 M.G.
Machinery: H.P.: 4,000 = 15 kts.
Complement: 44

Notes
Launched in 1926. This icebreaker will eventually be replaced by the new icebreaker *Oden*.

LANDING CRAFT

1 New Construction

Displacement: 380 tons
Dimensions: 116½×28×8½ feet

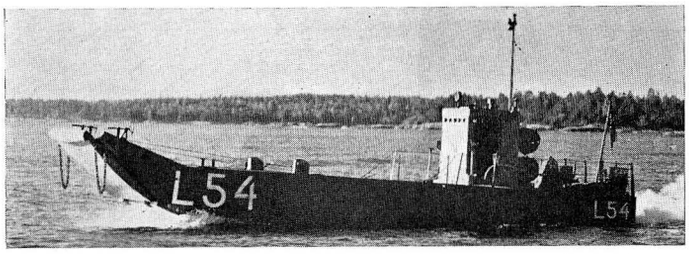
Notes
One landing craft under construction will be an improved "Ane" class design.

2 New Construction

SKAGUL **SLEIPNER**

Displacement: 355 tons *standard*
Dimensions: 118×28×8½ feet
Machinery: Speed=12 kts.

Notes
Sleipner was launched in 1959 and completed in 1960. *Skagul* was launched in 1960.



L 54 1959, *Royal Swedish Navy, Official*

L 51 **L 52** **L 55**

Displacement: 30 tons *standard*
Dimensions: 46×15⅔×3 feet
Machinery: Speed=8 kts.

Notes
Landing craft of general utility type. Launched in 1948. Sister craft L 53 and L 54 were stricken in 1960.

ANE **BALDER** **LOKE** **RING**

Displacement: 135 tons
Dimensions: 91⅝×26¼×4 feet
Machinery: Speed=7 kts.

Notes
Artillery transport craft. Launched in 1943-45.

TENDERS

TORPEDBÄRGAREN

Displacement: 50 tons *standard*
Dimensions: 92×16½×6 feet

Notes
Launched in 1951.

Recent Disposals
The tenders *Starkodder* (ex-*Graham*) and *Styrbjörn* (ex-*Klo*), former whale catchers, built in Norway, were scrapped in 1960, it is officially stated. The tender *Orion* was also stricken in 1960.

SVEPAREN **SPRÄNGAREN**

Displacement: 185 tons *standard*
Dimensions: 85½×23×10 feet
Guns: 1—25 mm., 1 M.G.
Machinery: Triple expansion. I.H.P.: 400=10 kts.
Complement: 18

Notes
Launched in 1917-18. Pennant Nos. 253 and 255 respectively, painted on bows. Tug type originally used as minesweepers. Now supply tenders.

TRAINING SHIPS (*Skonerter*)

FALKEN (12 June 1947) **GLADAN** (14 Nov. 1946)

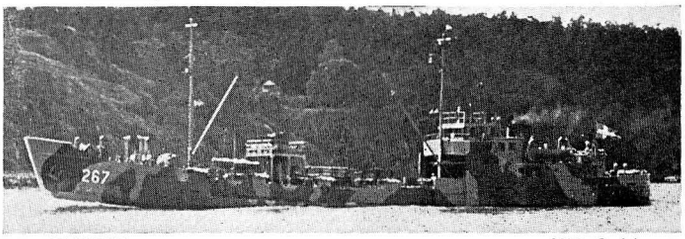
Displacement: 220 tons *standard*
Dimensions: 93 (*w.l.*), 129½ (*o.a.*)×23½×13½ feet
Machinery: Auxiliary diesel of 50 B.H.P.

Notes
Sail training ships. Schooners. Launch dates above. Sail area 5,511 square feet.

OILERS (*Tankfartyg*)

TANKAREN (ex-*Lister*, 1941)

Displacement: 500 tons *standard*
Measurement: 300 tons *deadweight*
Dimensions: 118×22×10 feet
Machinery: Speed: 10 kts.



OLJAREN 1959, *Ossi Janson*

OLJAREN (ex-*Martha*, 1939)

Displacement: 1,100 tons *standard* (695 tons cargo capacity)
Dimensions: 179×28×11 feet
Guns: 2—25 mm. AA.
Machinery: Speed: 9 kts.

ELDAREN (ex-*Muron*, 1938)

Displacement: 875 tons *standard* (535 tons cargo capacity)
Dimensions: 169×25¾×10 feet
Guns: 2—25 mm. AA.
Machinery: Speed: 9·5 kts.

Notes
Launch dates in parentheses above. Pennant Nos. 269, 267 and 266, respectively.

BRÄNNAREN

Displacement: 1,100 tons *standard* (610 tons cargo capacity)
Dimensions: 165 (*pp.*), 173 (*o.a.*)×29×12 feet
Guns: 2—25 mm. AA.
Machinery: Atlas diesels. H.P.: 500=10 kts.

Notes
Built by Kockums Mekaniska Verstads Aktiebolag, Malmö. Launched in 1933. Pen. No. 265.

WATER CARRIERS

FRYKEN

Displacement: 307 tons *standard*
Dimensions: 105×19×9 feet
Machinery: Speed=10 kts.

Notes
A new construction water carrier. Launched in 1959 and completed in 1960.

UNDEN

Displacement: 500 tons
Dimensions: 121½×23⅓× 14 feet
Speed: 10 kts.

Notes
Launched in 1946. Pennant No. 268 painted on the bows.

SUPPLY SHIP

FREJA

Displacement: 300 tons *standard* (450 tons *full load*)
Dimensions: 160⅔×27½×10 feet
Machinery: Speed: 11 kts.

Notes
Built by Kroger, Rendsburg, and launched in 1953. Employed as a provision ship. Pennant No. 270.

SYRIA

PATROL VESSELS

3 Ex-French "Ch" Type

AKABA BEN NASEH (ex-*Ch* 10) **TAREK BEN SAID** (ex-*Ch* 13)
AL HARISSI (ex-*Ch* 19)

Displacement: 107 tons *standard* (131 tons *full load*)
Dimensions: 116½ (*pp.*), 121¾ (*o.a.*)×17½×6½ feet
Guns: 1—3 inch; 2—20 mm. AA.
A/S weapons: Depth charges
Machinery: MAN diesels. 2 shafts. B.H.P.: 1,130=16 kts.
Oil fuel: 5 tons
Radius: 1,200 miles at 8 kts.; 680 miles at 13 kts.
Complement: 28

Notes
These former French submarine chasers form the nucleus of the newly created Syrian Navy.

Name	*Builders*	*Laid down*	*Launched*	*Completed*
Akaba Ben Naseh	A.C. de France	1938	Jan. 1940	Apr. 1940
Al Harissi	A.C. Seine Maut	1938	1939	1940
Tarek Ben Said	A.C. Seine Maut	1938	1939	1940

New Construction
Syria is planning the construction of patrol vessels of 150 tons displacement with a speed of 27 kts.; motor torpedo boats; and seaward defence boats of 60 tons with a speed of 23 kts.

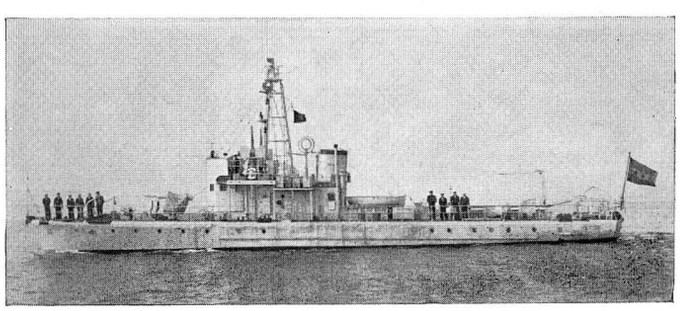
Acquisition Programme
Syria expects to receive from Russia two small submarines of the "M" type and six motor torpedo boats under a new agreement. Several small craft have been received from France.

FAST PATROL BOATS

12 Ex-Russian Type

Displacement: 50 tons
Tubes: 2—21 inch
Machinery: Speed=40 kts.

Notes
Five motor torpedo boats were transferred from Russia at Latakia on 7 Feb. 1957.



"Ch" Type 1957, *M. Henri Le Masson*

TAIWAN CHINA (FOROMSA)

Administration

Commander-in-Chief Chinese Nationalist Navy: Admiral Yue-si Ni

Fleet Commander: Rear-Admiral Wang En-hua

Ships

Chinese (Taiwan) ships' names are prefaced by "R.C.N." (Republic of China Navy). Chinese (Taiwan) naval vessels are assigned a "block" number which is painted on the bow and serves as a means of identification and classification.

6	Destroyers	51	Coastal Craft
24	Frigates	10	Transports
3	Escort Vessels	6	Oilers
12	Fleet Minesweepers	23	L.S.T.s.
2	Minelayers	14	L.S.M.s.
2	Gunboats	9	L.C.I.L.s.
23	Submarine Chasers	7	L.C.U.s.

Ordnance

Main armament of ex-Japanese frigates being replaced by U.S. 3-inch, 50 cal. d.p. guns; 25 mm. and M.G. being replaced by 20 mm. guns.

Personnel

1960: Naval, 34,126 officers and ratings; Marine, 26,256 officers and men

The Chinese (Taiwan) Navy is undergoing training with the aid of officers and men of the United States Military Assistance Advisory Group on Formosa.

A small detachment of United States Marine Corps advisers trains Chinese (Taiwan) marines in amphibious operations.

DESTROYERS

2 Ex-U.S. "Gleaves" Class

16 HSUEN YANG (ex-U.S.S. *Rodman*, DD 456, ex-DMS 21)

17 NAN YING (ex-U.S.S. *Plunkett*, DD 431)

Name:	*Hsuen Yang*	*Nan Ying*
Builders:	Federal S.B. & D.D. Co.	Federal S.B. & D.D. Co.
Laid down:	2 Dec. 1940	1 Mar. 1939
Launched:	26 Sep. 1941	9 Mar. 1940
Completed:	27 Jan. 1942	16 July 1940

Displacement: *Hsuen Yang* 1,630 tons, *Nan Ying* 1,700 tons *standard* (2,575 tons *full load*)

Dimensions: 341 (*w.l.*), 348¼ (*o.a.*) × 36½ × 17¾ (*max.*) feet

Guns: 3—5 inch (4—5 inch in *Nan Ying*), 38 cal.; 4—40 mm. AA.; 4—20 mm. AA.

Tubes: 5—5 inch (in *Nan Ying*)

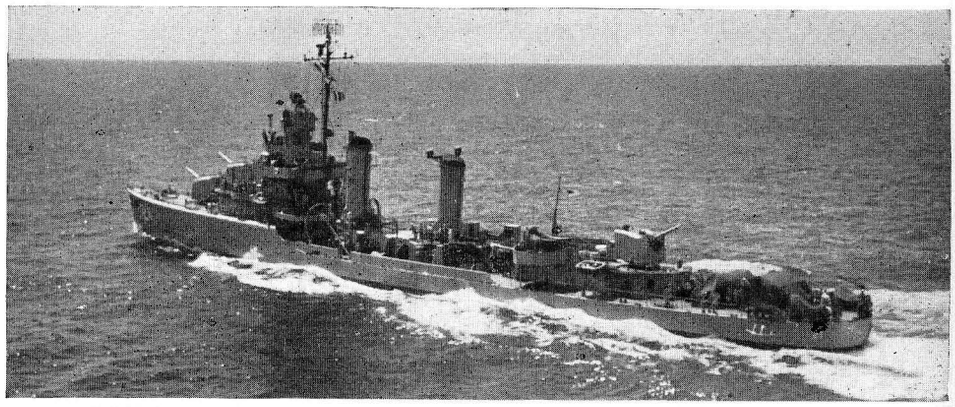
Machinery: General Electric geared turbines. 2 shafts. S.H.P.: 50,000=37·4 kts.

Boilers: 4 Babcock & Wilcox

Oil fuel: 600 tons

Radius: 5,000 miles at 15 kts.

Complement: 250



HSUEN YANG — *Official*

Notes

Transferred on loan from the United States Navy to the Chinese (Taiwan) Navy at Charleston, South Carolina, *Rodman* on 28 July, 1955, and *Plunkett* on 16 Feb. 1959 (sailed for Taiwan in May 1959). The loan of *Hsuen Yang* (ex-*Rodman*) was extended for five more years by the U.S.A. in 1960.

2 Ex-U.S. "Mayo" Class

15 HAN YANG (ex-U.S.S. *Hilary P. Jones*, DD 427)

14 LO YANG (ex-U.S.S. *Benson*, DD 421)

Name:	*Han Yang*	*Lo Yang*
Builders:	Philadelphia Navy Yard	Bethlehem (Quincy)
Laid down:	16 Nov. 1938	16 May 1938
Launched:	14 Dec. 1939	15 Nov. 1939
Completed:	7 Sep. 1940	25 July 1940

Displacement: 1,620 tons *standard* (2,450 tons *full load*)

Dimensions: 340 (*w.l.*), 348⅛ (*o.a.*) × 35⅓ × 18 (*max.*) feet

Guns: 4—5 inch 38 cal.; 4—40 mm. A.A, 6—20 mm. AA.

A/S weapons: D.C. mortar and D.C. throwers

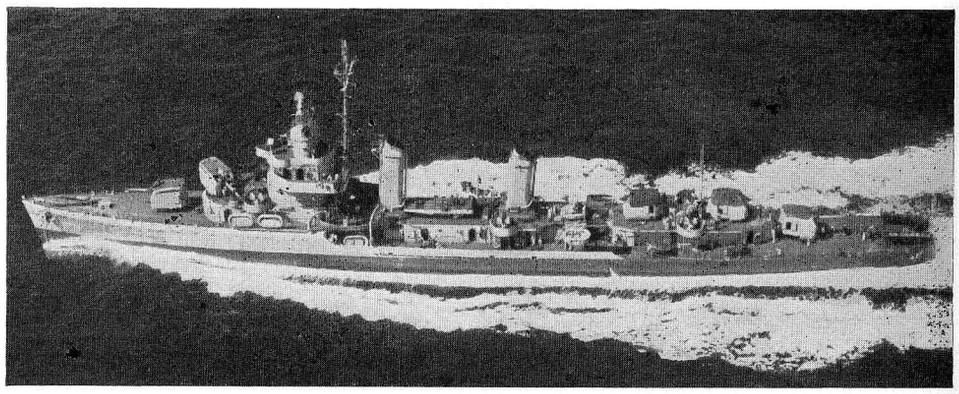
Machinery: Geared turbines. 2 shafts. S.H.P.: 50,000=36·5 kts.

Boilers: 4 high pressure

Oil fuel: 600 tons

Radius: 5,000 miles at 15 kts.

Complement: 250



HAN YANG — *Added 1957, Official*

Notes

Both presented by U.S.A. and transferred to China (Taiwan) at Charleston, South Carolina, on 26 Feb. 1954.

Photograph Notes

A photograph of *Lo Yang* (ex-*Benson*) appears in the 1954-55 to 1957-58 editions.

1 Ex-Japanese Leader Type

FEN YANG (ex-*Yoitsuki*)

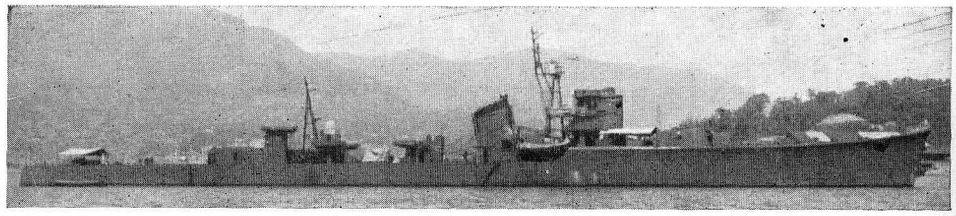
Displacement: 2,701 tons *standard* (3,485 tons *full load*)

Dimensions: 413⅜ (*pp.*), 433 (*w.l.*), 440¼ (*o.a.*) × 38 × 13¾ feet

Machinery: 2 turbines. S.H.P.: 52,000= 33 kts.

Boilers: 3 Kampon

Complement: 290



FEN YANG — *Added 1953, Hajime Fukaya*

Notes

Former Japanese "Akizuki" Class. Built by Uraga Dock Co. Ltd. Laid down on 25 Aug. 1943. Launched on 25 Sep. 944. Completed on 31 Jan. 1945. Storage for 72 depth charges. Taken over by the Chinese Navy in 1947 with six other ex-Japanese destroyers in the distribution of surrendered enemy tonnage. Unarmed and in very bad state able neither to steam nor steer. Laid up and non-operational.

1 Ex-Japanese Fleet Type

12 TAN YANG (ex-*Yukikaze*)

Displacement: 2,050 tons *standard* (2,490 tons *full load*)

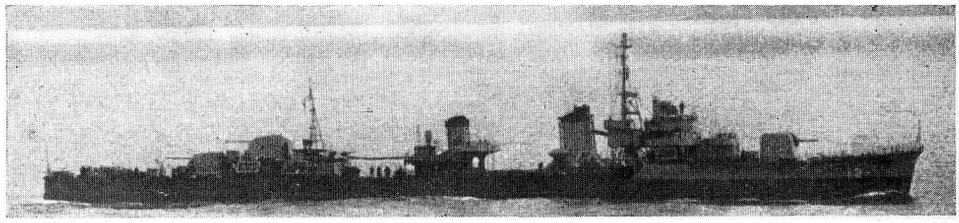
Dimensions: 388 (*o.a.*) × 35½ × 12½ feet

Guns: 3—5 inch, 38 cal. d.p. in open mounts, in "A," "X" and "Y" positions; 2—3 inch d.p. in open mounts, one on deck in "P" position, one on a deckhouse in "Q" position (as re-armed with U.S. guns); also 40 mm. and 20 mm. AA.

A/S weapons: D.C. racks

Machinery: Geared turbines. S.H.P.: 52,000= 35 kts. (designed). See notes

Boilers: 3 Kampon



TAN YANG — *1954. Lieut. Charles S. Bird, U.S.N.*

Notes

Built at Sasebo, Japan. Launched in 1939, completed in 1940. She is now the largest combatant unit in the Taiwan Navy. Ship underwent an extensive overhaul in 1951-52. During trials in Feb. 1953, 27·5 kts. was reached, and 26 kts. maintained for an hour. She was rearmed in 1959.

FRIGATES

4 Ex-Japanese Escort Types

HEN YANG (ex-*Kaede*) **HUI YANG** (ex-*Sugi*)

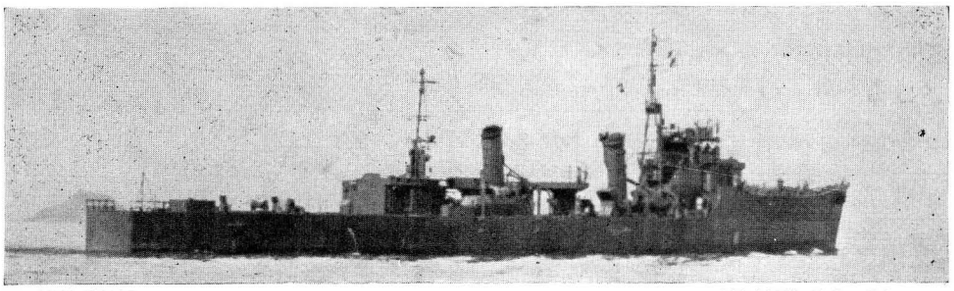
Displacement:	1,000 tons *standard* (1,530 tons *full load*)
Dimensions:	302½ (*pp.*), 321½ (*w.l.*), 328 (*o.a.*) × 30⅔ × 11 feet
Machinery:	2 geared turbines. S.H.P.: 19,000=28·8 kts.
Boilers:	2 Kampon
Complement:	210

Notes

Former Japanese *Matsu* class. Both launched in 1944. *Hui Yang* aground and reported beyond repair. *Hen Yang* almost in hulk condition.

82 HSIN YANG (ex-*Hatsume*) **HUA YANG** (ex-*Tsuta*)

Displacement:	1,050 tons *standard* (1,580 tons *full load*)
Dimensions:	302½ (*pp.*), 321½ *w.l.*). 328 (*o.a.*) × 30⅔ × 11 feet
Guns:	*Hsin Yang*: 2—5 inch, 38 cal. d.p. in open mounts in "A" and "Y" positions; 2—40 mm. AA.; 4—20 mm. AA.
Machinery:	Turbines. S.H.P.: 19,000=27 8 kts.
Boilers:	2 Kampon
Complement:	210



HUA YANG *Added* 1953, *Hajime Fukaya*

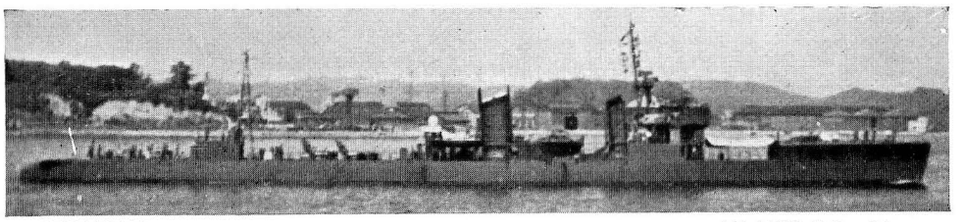
Notes

Former Japanese. Modified *Matsu* class. *Hua Yang* was built at Yokosuka, having been laid down on 31 July 1944, launched on 2 Nov. 1944 and completed on 8 Feb. 1945. Reported to be beyond economical repair. Almost in hulk condition. *Hsin Yang* was launched in 1945. Formerly numbered 15, she was re-numbered 82 in 1955.

1 Modified Ex-Japanese "Kaiten" Type

SHEN YANG (ex-*Namikaze*)

Displacement:	1,350 tons *standard* (1,700 tons *full load*)
Dimensions:	320 (*pp.*), 327½ (*w.l.*), 336½ (*o.a.*) × 29½ × 11½ feet
Guns:	1—4·7 inch, 20—25 mm. AA., 8—13 mm.
Machinery:	Geared turbines. S.H.P.: 22,000=34 kts. (original) now 28 kts.
Boilers:	3 Kampon
Oil fuel:	315 tons
Radius:	4,000 miles at 15 kts.
Complement:	150



SHEN YANG *Added* 1953, *Hajime Fukaya*

Notes

Former Japanese. Modified "Minekaze" class. Built at Iino Maizuru. Laid down on 7 Nov. 1921, launched on 24 June 1922 and completed on 11 Nov. 1922. Thin fore-funnel since first boiler was removed. Four-strutted main-mast. Raked down stern. Damaged in Northern waters in 1944 and repaired and reconstructed as "Kaiten" (Human Torpedo) Carrier. Laid up and non-operational. Almost in hulk condition.

5 Ex-U.S. Destroyer Escort Types

21 TAI KANG (ex-U.S.S. *Wyffels*, DE 6)

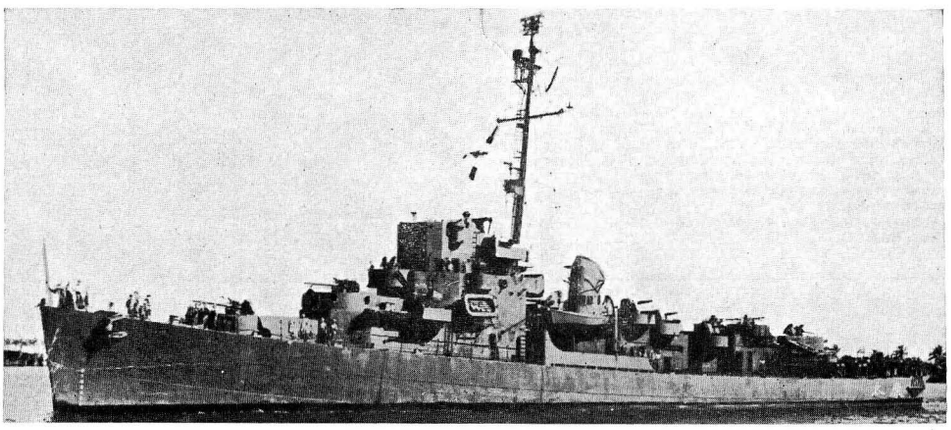
Displacement:	1,150 tons *standard* (1,430 tons *full load*)
Dimensions:	283½ (*w.l.*), 289½ (*o.a.*) × 35 × 10⅔ feet
Guns:	3—3 inch, 50 cal. dual purpose, 4—40 mm. AA., 11—20 mm. AA.
A/S weapons:	9 D.C.T.
Machinery:	Diesel with electric drive. 2 shafts H.P.: 6,000=21·5 kts. (19 kts. sea speed)
Radius:	5,500 miles at 14 kts.
Complement:	120

Notes

Former United States destroyer escort. Built at Boston Navy Yard. Presented to China in 1946. Sister ship *Tai Ping* (ex-U.S.S. *Decker*, DE 47), was torpedoed and sunk by Chinese Republican motor torpedo boats off Tachen Islands on 14 Nov. 1954.

26 TAI CHAO (ex-U.S.S. *Carter*, DE 112)
23 TAI HO (ex-U.S.S. *Thomas*, DE 102)
25 TAI HU (ex-U.S.S. *Breeman*, DE 104)
24 TAI TSANG (ex-U.S.S. *Bostwick*, DE 103)

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36¾ × 12 (*max.*) feet
Guns:	4—3 inch, 50 cal. d.p., 3 or 4—40 mm. AA., 9 or 10—20 mm. AA.
A/S weapons:	8 D.C.T.
Tubes:	3—21 inch in triple mounting
Machinery:	Diesel electric. 2 shafts. B.H.P.: 6,000=21 kts. (19 kts. in service)
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220



TAI KANG *Added* 1949

Pennant No.	*Name*	*Launched*	*Completed*
26	*Tai Chou*	29 Feb. 1944	2 May 1944
23	*Tai Ho*	31 July 1943	21 Nov. 1943
25	*Tai Hu*	1943	12 Dec. 1943
21	*Tai Kang*	1943	21 Apr. 1943
24	*Tai Tsang*	30 Aug. 1943	21 Dec. 1943

Notes

Former United States destroyer escorts. Transferred on 31 Dec. 1948. Two underwent overhaul in Japanese yards, late in 1952.

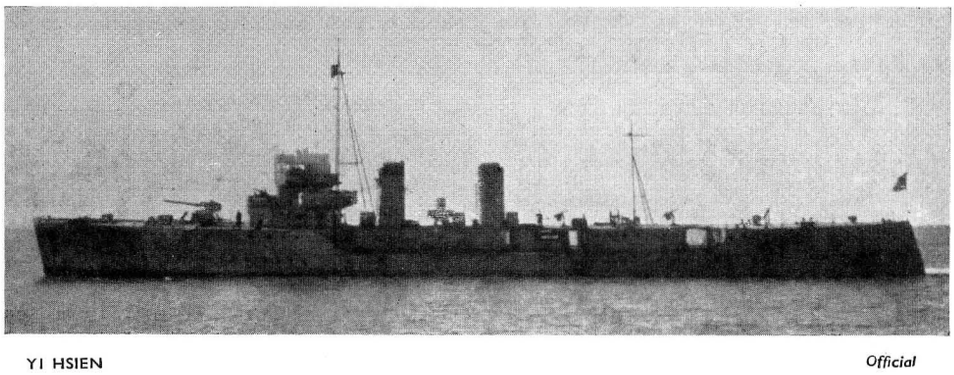
1 Ex-Sloop Type

78 YI HSIEN (ex-*Yat Sen*, ex-*Atada*)

Builders:	Kiangnan Dock Co., Shanghai
Launched:	1930
Displacement:	1,650 tons *normal*
Dimensions:	270 (*o.a.*), 252 (*pp.*) × 34 × 11 feet (*mean*), 12½ feet (*max.*)
Guns:	1—4·7 inch, 1—3 inch, 4—40 mm. AA., 5—25 mm., 6—7·7 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 4,000=16 kts.
Boilers:	Yarrow
Coal:	280 tons
Complement:	182

Notes

Ex-sloop: Ex-No. 63. Poop deck has been removed. Now employed as a training ship.



YI HSIEN *Official*

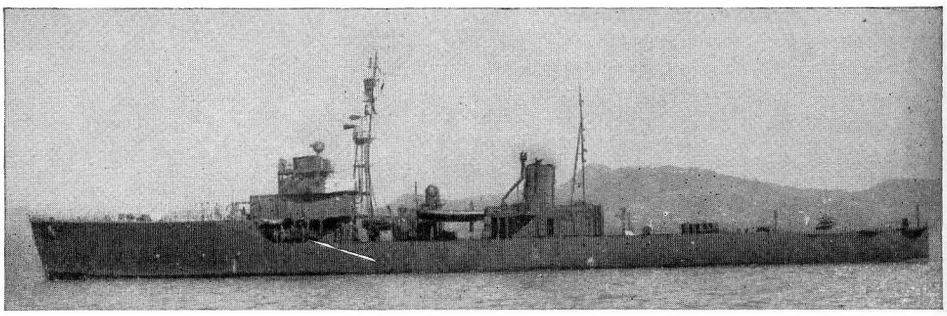
Frigates (*continued*)

2 Ex-Japanese Escort Destroyer Types

6 CHENG AN (ex-*Hsueh Feng*, ex-*Wei Tai*, ex-*Yashiro*)

Displacement:	940 tons *standard* (1,020 tons *full load*)
Dimensions:	258½ (*o.a.*) × 30 × 10⅔ feet
Guns:	2—4·7 inch, 2—40 mm. AA.; 8—25 mm. AA.
Machinery:	2 Diesels. B.H.P.: 4,200 = 19·5 kts.
Radius:	5,000 miles at 16 kts.
Complement:	150

Notes
Ex-Japanese Type A or " Mikura " class. Built by Hitachi (Sakuraima Works). Laid down on 8 Nov. 1943. Launched on 16 Feb. 1944. Completed on 10 May 1945. For sister ship *Hui An* see China (People's Republic).

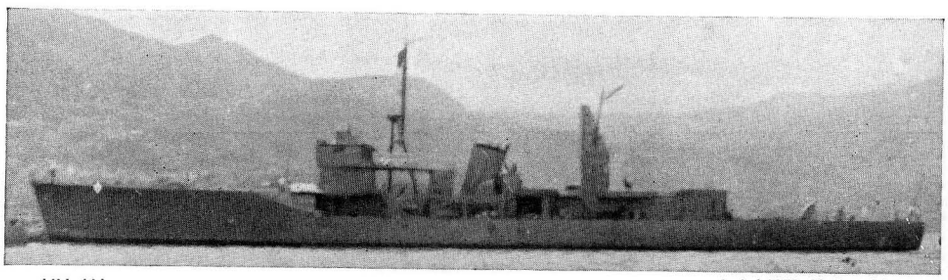


CHENG AN — *Added* 1953, *Hajime Fukaya*

77 LIN AN (ex-*Tsushima*)

Displacement:	960 tons *standard* (1,020 tons *full load*)
Dimensions:	255 (*o.a.*) × 30 × 10 feet
Guns:	1—4·7 inch d.p.; 1—3 inch, 50 cal.; 8—25 mm.
A/S weapons:	26 D.C.
Machinery:	Diesel. shafts. B.H.P.: 4,200 = 19·7 kts.
Radius:	8,000 miles at 16 kts.
Complement:	147

Notes
Ex-Japanese Type A or " Etorofu " class. Built at Tsurumi. Laid down on 20 June 1942. Launched on 20 Mar. 1943. Completed on 30 July 1943. Fitted for minelaying. Pennant No. 77. For sister ship *Chang Pei*, see China (People's Republic).



LIN AN — *Added* 1953, *Hajime Fukaya*

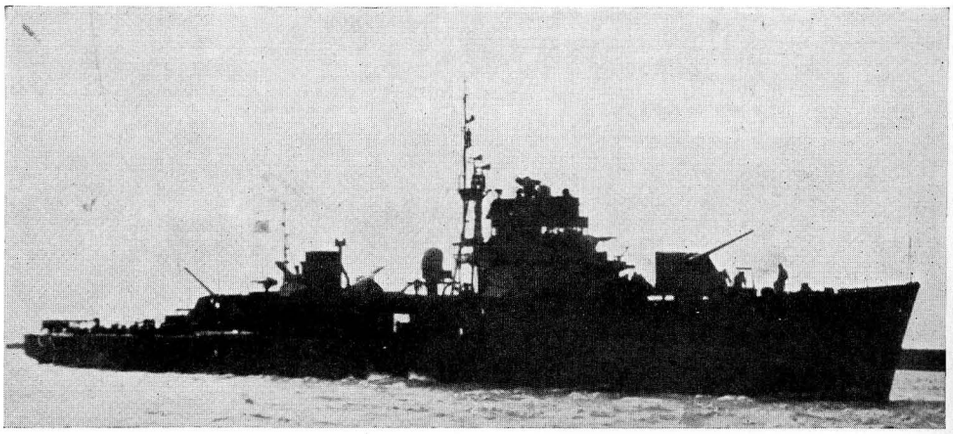
8 Ex-Japanese Escort (Corvette) Types

No. 1 (Diesel) Class

CHANG AN (ex-*Hsein An*, ex-Jap. No. 205)
74 CHAO AN (ex-Jap. No. 107)
73 JUI AN (ex-*Swe An*, ex-*Ying Kan*, ex-Jap. No. 67)
TSING PAI (ex-*Liao Hai*, ex-Jap. No. 215)

Displacement:	745 tons *standard* (810 tons *full load*)
Dimensions:	221½ (*o.a.*) × 28 × 9½ feet
Guns:	*Chao An*, 2—3 inch, 2—40 mm. AA.; *Jui An*, 1—4·7 inch, 1—3 inch, 8 M.G.; *Tsing Pai*, 2—3 inch, 6—25 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,900 = 16·5 kts.
Radius:	6,500 miles at 14 kts.
Complement:	130

Notes
Ex-Japanese, Type C or " Kaibokan " Class No. 1 Type. Handed over disarmed. *Chang An* was built by Nagata Iron Works. She was laid down on 10 May 1944, launched on 15 Aug. 1944, and completed on 30 Oct. 1944. She was never rearmed and was laid up and non-operational. She grounded on 26 Sep. 1954, on Pescadores Islands with extensive damage and flooding. Now a hulk. *Tsing Pai* is also a hulk.



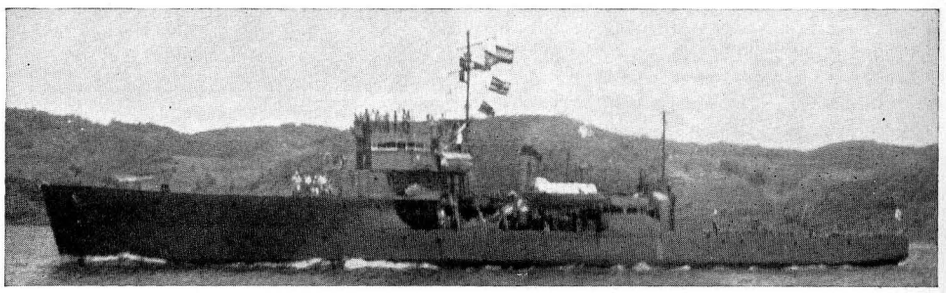
TSING PAI — *Added* 1957, *Hajime Fukaya*

No. 2 (Turbine) Class

72 CHEN AN (ex-Jap. No. 40)
71 TAI AN (ex-Jap. No. 104)
TSI NAN
TUNG AN (ex-Jap. No. 192)

Displacement:	740 tons *standard* (900 tons *full load*)
Dimensions:	228 (*o.a.*) × 28½ × 10 feet
Guns:	*Tai An*, 2—4·7 inch, 4—40 mm., 6—25 mm.; *Cheng An*, 2—4·7 inch, 11—20 mm., 2 M.G.
Machinery:	Turbine. S.H.P.: 2,500 = 17·5 kts.
Boilers:	2 mixed firing
Radius:	4,500 miles at 14 kts.
Complement:	145

Notes
Ex-Japanese. Type D or " Kaibokan " Class No. 2 Type.



TUNG AN — *Added* 1953, *Hajime Fukaya*

All handed over disarmed. *Tung An* was built by Mitsubishi, Nagasaki Laid down on 5 Dec. 1944, launched on 30 Jan. 1945, and completed on 28 Feb. 1945. Rated as gunboats *Tsi Nan* and *Tung An* are not operational.

2 Ex-Canadian Corvette Type

80 KAO-AN (ex-*Chiu Chin*, ex-*Tillsonburg*, ex-*Pembroke Castle*)
81 TE-AN (ex-*Hsi Lin*, ex-*Orangeville*, ex-*Hedingham Castle*)

Name:	*Kao-An*	*Te-An*
Builders:	Ferguson Bros. Ltd., Glasgow	Henry Robb Ltd., Leith
Laid down:	3 June 1943	23 July 1943
Launched:	12 Feb. 1944	26 Jan. 1944
Completed:	17 July 1944	10 May 1944

Displacement:	1,100 tons *standard* (1,580 tons *full load*)
Dimensions:	257 (*o.a.*) × 36⅔ × 15¾ (*max.*) feet
Guns:	1—4·7 inch d.p., 1—3 inch, 4—40 mm., 4—20 mm.
Machinery:	Triple expansion. I.H.P.: 2,800 = 16·5 kts.
Boilers:	Two 3-drum type
Oil fuel:	480 tons
Radius	2,400 miles at 10 kts.
Complement:	100

Notes
Reconverted from merchant ships. Taken over by the Chinese (Taiwan) Navy in June 1951 and rearmed. Ex-Nos. 62 and 61, respectively.

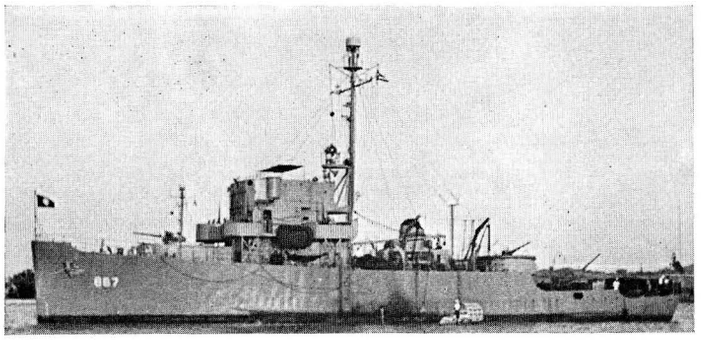
1 Ex-Japanese Minelaying Type

70 YUNG CHING (ex-*Saishu*)

Displacement:	750 tons *standard*
Dimensions:	231 (*pp.*), 240½ (*w.l.*), 246 (*o.a.*) × 26 × 8½ feet
Guns:	1—4·1 inch, 1—40 mm., 7—25 mm., 1—20 mm.
Mines:	120 capacity
Machinery:	2 Diesels. 2 shafts. B.H.P.: 3,600 = 20 kts. (designed speed)
Complement:	100

Notes
Built by Sasebo Dockyard in 1941. Japanese prize, acquired in 1947. Formerly rated as a light minelayer. Now rated as DE escort. Ex-No. 75.

ESCORT PATROL VESSELS



YUNG TAI *Added 1960*

2 Ex-U.S. PCE Type

42 WEI YUAN (ex-*Yung Hsiang*, ex-*PCE* 869, 6 Feb. 1943)
41 YUNG TAI (ex-U.S.S. *PCE* 867, 3 Dec. 1942)

Displacement:	640 tons *standard* (903 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9½ feet (*max.*)
Guns:	2—3 inch d.p., 3—40 mm. AA., 6—20 mm. AA., 4 D.C.T.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=17 kts.
Complement:	110

Notes
Launch dates above. Built by Albina Engine and Machinery Works, Portland, Ore. One 3 inch, 50 cal. gun was added in 1955. Rated as gunboats.

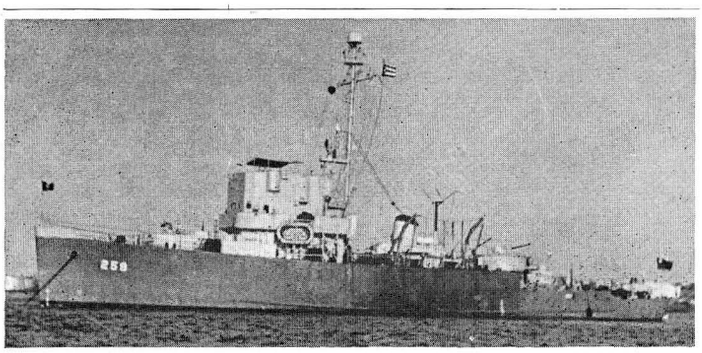
1 Ex-Italian Minelaying Type

79 HSIEN NING (ex-Japanese *Okitsu*, ex-Italian *Lepanto*)

Displacement:	615 tons *standard* (848 tons *full load*)
Dimensions:	204 × 28½ × 8½ feet
Guns:	3—3 inch, 2—40 mm. AA., 4—20 mm.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,500=13 kts.
Boilers:	2 watertube
Coal:	145 tons
Radius:	3,500 miles
Complement:	184

Notes
Launched on 22 May, 1927. Former Italian minelayer with a capacity of 80 mines. Also fitted for minesweeping. Now rated as a gunboat or escort patrol vessel.

FLEET MINESWEEPERS/GUNBOATS



YUNG SHUN *Added 1960*

13 Ex-U.S. *MSF* (ex-*AM*) Type

(7 *rated as Minesweepers*)

47 YUNG CHIA (ex-U.S.S. *Implicit*, *AM* 246, 6 Sep. 1943)
48 YUNG HSIU (ex-U.S.S. *Pinnacle*, *AM* 274, 11 Sep. 1943)
46 YUNG NING (ex-U.S.S. *Magnet*, *AM* 260, 5 June 1943)
43 YUNG SHENG (ex-U.S.S. *Lance*, *AM* 257, 10 Apr. 1943)
49 YUNG SHOU (ex-U.S.S. *Pivot*, *AM* 276, 11 Nov. 1943)
44 YUNG SHUN (ex-U.S.S. *Logic*, *AM* 258, 10 Apr. 1943)
45 YUNG TING (ex-U.S.S. *Lucid*, *AM* 259, 5 June 1943)

(4 *rated as Gunboats*)

51 YUNG CHANG (ex-U.S.S. *Refresh*, *AM* 287, 12 Apr. 1944)
52 YUNG CHUN (ex-U.S.S. *Gavia*, *AM* 363, 18 Sep. 1943)
53 YUNG HO (ex-U.S.S. *Delegate*, *AM* 217, 28 Mar. 1943)
54 YUNG KANG (ex-U.S.S. *Elusive*, *AM* 225, 10 June 1943)

(1 *rated as Minelayer*)

50 YUNG FENG (ex-U.S.S. *Prime*, *AM* 279, 22 Jan. 1944)

(1 *rated as Coastguard*)

A4 YUNG HSING (ex-U.S.S. *Embattle*, *AM* 226, 17 Sep. 1944)

Displacement:	650 tons *standard* (945 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 9¾ feet (*max.*)
Guns:	1—3 inch d.p., 3—40 mm. AA., 6—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=14·8 kts.
Complement:	104

Notes
All MSF (ex-AM) type fleet minesweepers acquired from the U.S. Navy. Launch dates above. *Yung Feng* is fitted for minelaying with tracks on her stern and is rated as a coastal minelayer. *Yung Chang*, *Yung Chun*, *Yung Ho* and *Yung Kang* are rated as gunboats. The 20 mm. guns in *Yung Ho* and *Yung Kang* were replaced by 40 mm. guns. *Yung Hsing* serves as a maritime customs vessel.

SUBMARINES

Ex-U.S. Type

Notes
Early in 1960 Nationalist China asked the United States to equip the Nationalists with submarines, and on 14 Mar. 1960, Taiwan China confirmed reports that it will receive submarines from the U.S. Navy under the Mutual Defense Assistance Program.

FAST TRANSPORT (Modified Destroyer Escort)

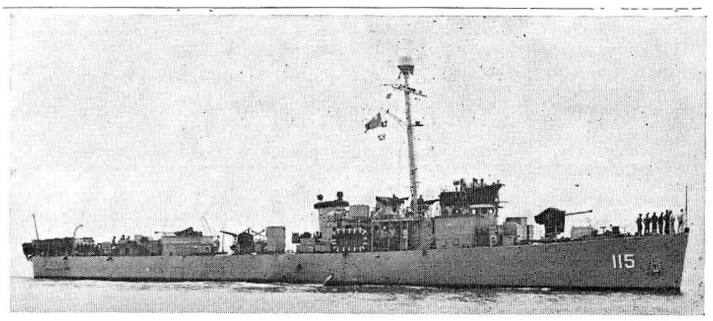
Rated as **High Speed Transport** (APD)
Converted Destroyer Escort

TIEN SHAN (ex-U.S.S. *Kleinsmith*, *APD* 134, ex-*DE* 718)

Displacement:	1,400 tons *standard*, 1,650 tons *trials* (2,130 tons *full load*)
Dimensions:	300 (*w.l.*), 306 (*o.a.*) × 37 × 12⅔ (*max.*) feet
Guns:	1—5 inch, 38 cal. d.p., 6—40 mm. AA.
Machinery:	General Electric turbines with electric drive . 2 shafts. S.H.P.: 12,000=23·6 kts. (trials)
Boilers:	2 Express
Oil fuel:	350 tons
Radius:	5,500 miles at 15 kts.
Complement:	204+162 troops

General Notes
Former destroyer escort converted by the U.S.A. and officially rated as a High-Speed Transport. Can carry four LCVP (Landing Craft, Vehicle-Personnel). Transferred from the United States Navy to Nationalist China at Tsoying, Taiwan, on 16 May 1960. The name *Tien Shan* means Heavenly Mountain.

SUBMARINE CHASERS



CHUNG KIANG *United States Navy, Official*

12 Ex-U.S. PC Type

104 TO KIANG (ex-*Chialing*, ex-U.S. *PC* 1247), 7 Aug. 1943
105 FU KIANG (ex-*Hwangpu*, ex-U.S. *PC* 492), 29 Dec. 1941
109 CHIH KIANG (ex-U.S. *PC* 1078), 8 Aug. 1942
110 YUAN KIANG (ex-U.S. *PC* 1182) 14 June 1943
111 LI KIANG (ex-U.S. *PC* 1208) 15 Sep. 1943
112 CHANG KIANG (ex-U.S. *PC* 1232) 12 Dec. 1942
113 KUNG KIANG (ex-U.S. *PC* 1233) 11 Jan. 1943
114 PO KIANG (ex-U.S. *PC* 1254) 31 Oct. 1942
115 CHUNG KIANG (ex-U.S. *PC* 1262) 27 Mar. 1943
116 CHING KIANG (ex-U.S. *PC* 1168) 3 July 1943
118 HSIANG KIANG (ex-U.S. *PC* 786) 6 Feb. 1943
119 TUNG CHANG (ex-U.S.S. *Placerville*, ex-*PC* 1087)
120 HSI CHANG (ex-U.S.S. *Susanville*, ex-*PC* 1149)
122 PEI CHANG (ex-U.S.S. *Hanford*, ex-*PC* 1142)
123 LIU CHANG (ex-U.S.S. *Escondido*, ex-*PC* 1169)
124 HAN CHANG (ex-U.S.S. *Vandalia*, ex-*PC* 1175)
125 CHU KIANG (ex-U.S.S. *Milledgeville*, ex-*PC* 1263)

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	173⅔ (*o.a.*) × 23 × 10⅔ (*max.*) feet
Guns:	1—3 inch, 50 cal., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	Diesel. B.H.P.: 2,880=20 kts.
Oil fuel:	60 tons
Radius:	5,000 miles at 10 kts.
Complement:	65

Notes
Launch dates above. *Chien Fang* and *Wu Sung* were discarded in 1951-52. *Hanford*, *Placerville*, *Escondido* and *Vandalia* were transferred from the United States Navy to the Chinese (Taiwan) Navy on 15 July 1957. *Milledgeville* was transferred at Key West, Florida, in July 1959.

07 MIN CHIANG (ex-*Fu Ling*, ex-No. 9, ex-*Hai Ta*, ex-No. 402)

Displacement:	290 tons *standard* (309 tons *full load*)
Dimensions:	184½ (*o.a.*) × 18½ × 7 feet
Guns:	2—40 mm., 3—25 mm., D.C. 36
Machinery:	Diesel. 2 shafts. B.H.P.: 2,600=19 kts.

10 Ex-U.S. SC Type

SC 501 (ex-101 *Chu Chien*, ex-*SC* 704)
SC 502 (ex-102 *Chu Chien*, ex-*SC* 708)
SC 503 (ex-103 *Chu Chien*, ex-*SC* 698)

Ex-**SC 518** Ex-**SC 637** Ex-**SC 648** Ex-**SC 703** Ex-**SC 722** Ex-**SC 723** Ex-**SC 735**

Displacement:	95 tons *standard* (148 tons *full load*)
Dimensions:	107½ (*w.l.*), 110⅝ (*o.a.*) × 17 × 6½ feet
Guns:	1—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 800=15½ kts.
Complement:	28

Notes
SC 501 is not on the active list, and has been laid up.

MINELAYER

1 Ex-Japanese Type

CHIEH 29 (ex-*Kuroshima*)

Displacement:	405 tons *normal* (420 tons *full load*)
Dimensions:	150 (*o.a.*) × 25 × 7½ feet
Guns:	1—3·1 inch, 2—13 mm. M.G.
Mines:	120
Machinery:	2 reciprocating engines: I.H.P.: 600=12·8 kts.
Boilers:	1
Fuel:	Coal

Notes
Built by Sasebo Dockyard in 1911. Japanese prize, acquired in 1947. Rated as Auxiliary Minelayer. Available, but not on active list.

GUNBOATS

YUNG HSIANG

Displacement:	830 tons *standard*
Dimensions:	205 (*pp.*), 215 (*o.a.*) × 29½ × 8 feet
Guns:	2—3 inch, 5—25 mm. AA., 6 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 kts.
Coal:	190 tons
Complement:	144

Notes
Built by Kawasaki Co., Kobe, Japan. Launched in 1912. Not on the active list.

75 CHU KUAN

Displacement:	740 tons *standard*
Dimensions:	200 × 30 × 8 feet
Guns:	3—25 mm. AA.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,350=11 kts.
Boilers:	Yarrow
Fuel:	150 tons coal
Complement:	117

Notes
Built by Kawasaki Co., Kobe, Japan. Launched in 1907.

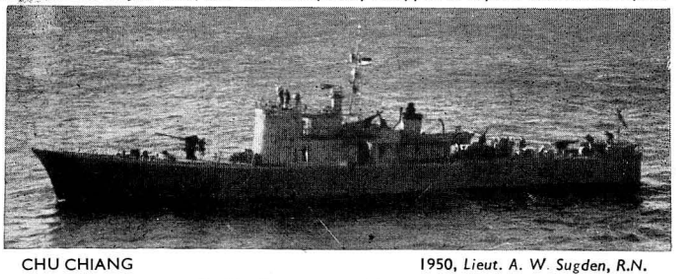
MOTOR GUNBOATS

2 Ex-U.S. PGM Type

102 OU CHANG (ex-*Hung Tse*, ex-U.S.S. *PGM* 26)
117 CHU KIANG (ex-U.S.S. *PGM* 31, ex-*PC* 1567)

Displacement:	295 tons *standard* (470 tons *full load*)
Dimensions:	174 (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch
Machinery:	2 Diesel. B.H.P.: 3,600=20 kts.
Complement:	80

Notes
Three boats were built by Consolidated Shipbuilding Corpn., Morris Heights, N.Y., of which *Pao Ying* was launched on 7 May 1944 and *Hung Tse* on 29 Sep. 1944. *Chu Kiang* was transferred from the U.S. Navy in 1954. 103 *Ling Chiang* (ex-*Tung Ting*, ex-U.S.S. *PGM* 13) was torpedoed and sunk by Chinese Republican motor torpedo boats on 10 Jan. 1955. 101 *Ying Chiang* (ex-*Pao Ying*, ex-U.S.S. *PGM* 20) was torpedoed by Republican motor torpedo boats on 20 Jan. 1955, and was subsequently scrapped as beyond economical repair.



CHU CHIANG — 1950, *Lieut. A. W. Sugden, R.N.*

1 Ex-Japanese Type

106 CHU CHIANG (ex-*Ya Ling*, ex-No. 49, ex-*Hai Hung*, SC 401)

Displacement:	420 tons *standard* (460 tons *full load*)
Dimensions:	167½ (*o.a.*) × 22 × 9 feet
Guns:	1—3·1 inch (8 cm.), 3—25 mm. AA., 2—13 mm. AA. M.G.
A/S weapons:	36 depth charges.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=16 kts.

COASTAL MINESWEEPERS

4 Ex-U.S. MSC Type

MSC 55 (ex-U.S.S. *MSC* 123)
MSC 56 (ex-U.S.S. *MSC* 140)
YUNG CHUAN, MSC 58 (ex-U.S.S. *MSC* 278)
YUNG NIEN, MSC 57 (ex-U.S.S. *MSC* 277)

Displacement:	335 tons *light* (378 tons *full load*)
Dimensions:	138 (*pp.*), 145 (*o.a.*) × 27 × 8½ feet
Guns:	2—20 mm. AA.
Machinery:	2 General Motor diesels. 2 shafts. B.H.P.: 880=14 kts.
Complement:	40

Notes
Former "Bluebird" class American non-magnetic coastal minesweepers of wooden hull construction. Built in U.S.A. MSC 123 and MSC 140 were transferred to China (Taiwan) under the Mutual Defense Assistance Program on 4 June 1955. MSC 277, launched on 30 June 1958, and MSC 278, launched on 1 Aug. 1958, both built by the Tacoma Boatbuilding Co., were transferred at Seattle on 10 June and 10 July, respectively, in 1959.

2 Ex-Japanese AMS Type

541 CHIANG (ex-No. 22)
542 CHIANG YUNG (ex-No. 19)

Displacement:	222 tons *normal*
Dimensions:	98 × 19½ × 7¾ feet
Guns:	2—40 mm., 2—25 mm., 2 M.G.
Machinery:	Diesel
Speed:	9 kts.

Notes
Former Japanese auxiliary minesweepers. Built in Japan in 1942-43.

REPAIR SHIPS

335 CHUNG CH'UAN (ex-*LST* 202 ex-U.S.S. *LST* 1030)

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=11 kts.
Cargo capacity:	2,100 tons
Complement:	211

Notes
Former American tank landing ship converted into a repair ship. Built at Boston Navy Yard. Laid down on 27 May 1944, launched on 25 June 1944 and completed on 19 July 1944.

Repair Ships—*continued*

Ex-**VULCAIN** (ex-U.S.S. *Agenor*, *ARL* 3, ex-*LST* 490)

Displacement:	1,625 tons (*light*) 4,080 tons (*full load*)
Dimensions:	328 (*o.a.*) × 50 × 14⅓ (*max.*) feet
Guns:	8—40 mm. AA.; 8—20 mm. AA.
Machinery:	2 diesels. B.H.P.: 1,700=10·8 kts.
Oil fuel:	1,060 tons
Radius:	6,000 miles at 9 kts.

Notes
Former United States ocean tank carrier with bow doors. Built by Kaiser Co., Inc., Vancouver, Wash. Laid down on 24 Jan. 1943. Launched on 3 Apr. 1943. Completed on 20 Aug. 1943. Transferred from the U.S. Navy to France in 1951 for service in Indo-China. This ship was returned to the U.S.A. by France, and then transferred to (Taiwan) China by the U.S.A. on 15 Sep. 1957.

SURVEYING SHIPS

361 CHING TIEN

Displacement:	535 tons *standard*
Dimensions:	150 × 31 × 9½ feet
Guns:	2—25 mm., 7 M.G.
Machinery:	Reciprocating engines (coal)=10 kts.
Complement:	90

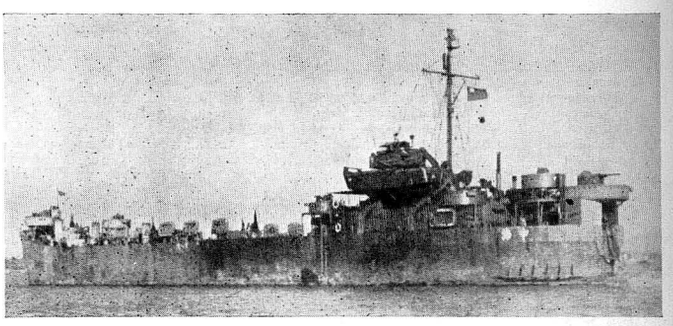
Notes
Built in China in 1939. Employed on coastal and inshore surveying duties.

861 CHIAO SHAN

Displacement:	170 tons *standard*
Guns:	3 M.G.

Notes
Small surveying craft also employed as a tender and general purpose vessel.

TANK LANDING SHIPS



CHUNG HAI — *Added 1957*

LST Type

LST 218 (ex-*LST* 279, *Berkeley County*)
Ex-**LST 400 BRADLEY COUNTY**
Ex-**LST 735 DUKES COUNTY**

Notes
Former United States tank landing ships transferred to Nationalist China at San Diego, in July 1955 and 1960 (*Dukes County*)

LST 216 (ex-*LST* 503)
LST 226 CHUNG CHIH (ex-U.S.S. *Sagadahoc County*, *LST* 1091)
LST 227 CHUNG MING (ex-U.S.S. *Sweetwater County*, *LST* 1152)

Notes
LST 216 was transferred from United States Navy at San Diego 29 April 1955, and LST 226 and LST 227 were transferred at Seattle on 21 Oct. 1958.
An LST was torpedoed and sunk by Chinese Republican torpedo boats off Quemoy on 25 Aug. 1958.

200 CHUNG YEH (ex-*Chung* 108, ex-*LST* 1056)
202 CHUNG CH'UAN (ex-*Wan Yiu*, ex-*Lu Yi*, ex-*LST* 640)
224 CHUNG CHENG (ex-U.S.S. *Lafayette County*, *LST* 859)
206 CHUNG CHI (ex-*LST* 1017)
205 CHUNG CHIEN (ex-*LST* 716)
225 CHUNG CHIANG (ex-U.S.S. *San Bernadino County*, *LST* 1110)
CHUNG CHIN
223 CHUNG FU (ex-U.S.S. *Iron County*, *LST* 840)
201 CHUNG HAI (ex-*LST* 755)
219 CHUNG HSI
204 CHUNGNG HSI (ex-*LST* 557)
208 (ex-*Wan Kuo*, ex-*LST* 732)
209 CHUNG LIEN (ex-*LST* 1050)
CHUNG MING
203 CHUNG TING (ex-*LST* 537)
211 CHUNG SHENG (ex-*LST* 1033)
315 CHUNG YU (ex-*Wan Li*, ex-*LST* 330)
210 CHUNG YUNG (ex-*LST* 574)

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	6—40 mm. AA., 12—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,700=11 kts.
Complement:	119

Notes
LST 208 *Chung Hsun* (ex-*LST* 993) is believed to have been lost, since a newly acquired LST has been numbered 208. Five of above (200, 202, 308, 313, 315) were acquired from the merchant service in 1955. LST 313 *Chung Kung* (ex-*Chung*, ex-*LST* 945) was scrapped in 1956. LST 207 *Chung Cheng* reported to be scrapped in 1958. LST 213, 224 and 225 were transferred from the United States Navy in 1958.

LSM Type

241 MEI CHEN (ex-*LSM* 155)
245 MEI HENG (ex-*LSM* 456)
248 MEI HO (ex-*LSM* 13)
244 MEI PENG (ex-*LSM* 431)
246 MEI HUNG (ex-*LSM* 442)
247 MEI SUNG (ex-*LSM* 457)
243 MEI I (ex-*LSM* 285)
249 MEI CHIEN (ex-*LSM* ———)
253 (ex-U.S.S. *LSM* ———)
254 MEI WEN (ex-*LSM* 472)
255 MEI HAN (ex-*LSM* 474)
Ex-**LSM 422**
Ex-**LSM 471**
Ex-**LSM 478**

Displacement:	743 tons *standard* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 7½ feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800=12 kts.
Complement:	59

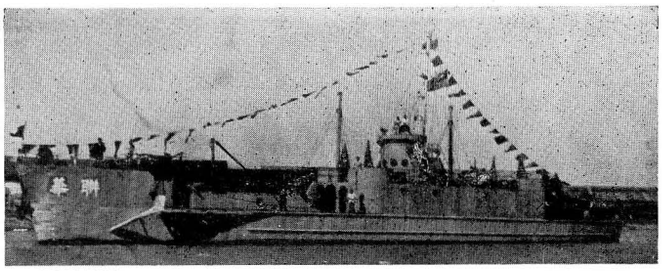
Notes
Meo Lo, 242 (ex-*LSM* 157) was destroyed by Chinese Republican artillery and beached on Quemoy Island on 8 Sep. 1958. *Mei Wen*, 254, and *Mei Han*, 255, were transferred from the United States Navy at Seattle, Wn., on 6 Feb. 1959. LSM 422, LSM 471 and LSM 478 were also loaned to Nationalist China by the U.S.A. in 1959.

LU SHAN (ex-Japanese No. 172)

Displacement:	887 tons *normal*
Dimensions:	264 × 29⅝ × 10¼ feet

Notes
Former Japanese No. 101 class LST. Could carry 14 light tanks and 120 troops. Went aground and was reported to be beyond repair. Removed from the effective list.

LANDING CRAFT



LIEN HUA *Added 1957*

LSIL Type

264 LIEN CHENG (ex-*LCI (M)* 630)
265 LIEN HUA (ex-*LCI (G)* 631)
261 LIEN CHU (ex-*LCI (G)* 233)
262 LIEN LI (ex-*LCI (G)* 417)
263 LIEN SHENG (ex-*LCI (G)* 418)
266 LIEN CHIEH

Displacement:	227 tons *standard* (387 tons *full load*)
Dimensions:	159×23⅜×5⅜ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320=14 kts.
Complement:	28

Notes
Former United States Landing Craft, Infantry (Gunboat) and Landing Craft, Infantry (Mortar). Armament varies.
China (Taiwan) received ex-U.S. *LSIL* 818, 1017, 1092 from the United States under MDAP (they were formerly on loan to France from the U.S.A. for service in Indo-China) to be used only for cannibalization.

LSSL Type

271 LIEN CHIH (ex-U.S.S. *LSSL* 56)
272 LIEN JEN (ex-U.S.S. *LSSL* 81)
273 LIEN YUNG (ex-U.S.S. *LSSL* 95)

Displacement:	227 tons *standard* (387 tons *full load*)
Dimensions:	153 (*w.l.*), 158 (*o.a.*) × 23⅜ × 5⅜ feet
Guns:	6—40 mm. AA. (twin), 10 rocket launchers
Machinery:	G.M. diesels. 2 shafts. B.H.P.: 1,320=14·4 kts.
Complement:	78

Notes
These ex-U.S. Navy LSSLs, formerly LCS(L)3, Landing Craft Support (Large) were transferred to China (Taiwan) at Yokosuka, Japan, on 19 Feb. 1954.
China (Taiwan) received ex-U.S. *LSSL* 2 and 28 from the United States under MDAP (they were formerly on loan to France from the U.S.A. for service in Indo-China) to be used only for cannibalization.

LCU (ex-LCT) Type

405 HO CHANG (ex-*LCT* 512)
406 HO CHEN (ex-*LCT* 1145)
403 HO CHENG (ex-*LCT* 1143)
407 HO CHIH (ex-*LCT*)
401 HO CHUN (ex-*LCU* 892)
404 HO CHUNG (ex-*LCT* 849)
402 HO CH'UNG (ex-*LCT* 1213)

Displacement:	134 tons *standard* (285 tons *full load*)
Dimensions:	114½×32⅜×3½ feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 3 shafts. B.H.P.: 675=10 kts.
Complement:	11

Notes
Additional landing craft are to be transferred, including 5 LCU under MDAP (craft formerly on loan to France from the U.S.A. for use in Indo-China). Two named so far are ex-LCU 700 and 1225.

DOCK LANDING SHIP (LSD)

1 Ex-U.S. "Ashland" Class

Ex-**WHITE MARSH**, LSD 8

Displacement:	4,790 tons *standard* (8,700 tons *full load*)
Dimensions:	454 (*w.l.*), 457⅜ (*o.a.*)×72×18 feet
Guns:	12—40 mm. AA.
Machinery:	Skinner Unaflow engines. 2 shafts. I.H.P.: 7,400=15·6 kts.
Boilers:	2, of 2-drum type
Complement:	326 (total accommodation)

General Notes
Built by Moore Dry Dock Co. Launched on 19 July 1943. Designed to serve as parent ship for landing craft and coastal craft. Transferred from the United States Navy to the Chinese (Taiwan) Navy on 15 Nov. 1960 at Long Beach, California.

PATROL CRAFT

521 HAI LI
522 HAI NING
523 HAI YAO
524 HAI WEI
525 HAI AN
526 HAI CHING

541 CHIANG I
542 CHIANG YUNG
543 CHIANG HSIU
544 CHIANG TING
545 CHIANG MING
546 CHIANG LIEN
547 CHIANG P'ING
548 CHIANG FENG
549 CHIANG KUNG
550 CHIANG LUN
551 CHIANG CH'ENG

581 P'AO 101
584 P'AO 104
587 P'AO 107
588 P'AO 108
591 P'AO 111
592 P'AO 112
593 P'AO 113
594 P'AO 114
595 P'AO 115
596 P'AO 116

631 P'AO 1
632 P'AO 2
633 P'AO 3
634 P'AO 4
635 P'AO 5
636 P'AO 6
637 P'AO 7
638 P'AO 8
639 P'AO 9
640 P'AO 10
641 P'AO 11
642 P'AO 12
643 P'AO 13
646 P'AO 16

YP 625

6 Ex-HDML Type

681 FANG I (ex-*HDML*)
682 FANG SAN (ex-*HDML*)
684 FANG SEU (ex-*HDML*)
686 FANG LIU (ex-*HDML*)
685 FANG CHI (ex-*HDML*)
687 FANG PA (ex-*HDML*)

Displacement:	46 tons *standard* (54 tons *full load*)
Dimensions:	72×15⅜×4⅜ feet
Guns:	1—40 mm., 1—20 mm.. 4 M.G.
Machinery:	2 Diesels. B.H.P.: 320=11 kts.
Complement:	14

Notes
Former harbour defence motor launches. Built in Great Britain in 1942-43. *Fang* 3 and *Fang* 8 were sunk in 1950

TRANSPORTS

311 WULING (ex-*Shirasaki*)

Displacement:	950 tons *standard*
Dimensions:	203×31½×10¼ feet
Guns:	1—3 inch, 1—40 mm., 8—25 mm. AA., 4 M.G.
Machinery:	2 Diesels. B.H.P.: 600=15 kts.

Notes
Ex-Japanese. Refrigerated cargo ship. Reported to be laid up and non-operational.

WU 1 (ex-No. 16)

Displacement:	1,800 tons *standard*
Dimensions:	315 (*o.a.*)×33½×12 feet
Guns:	2—5 inch AA., 25—25 mm. AA., 5—13 mm. AA., 42 D.C.
Machinery:	Turbine. S.H.P.: 9,500=22 kts.
Boilers:	2

Notes
Ex-Japanese. Non-operational. Reported to be available, but not on the active list.

Ex-No. 172

Displacement:	1,129 tons *standard*
Dimensions:	264 (*o.a.*)×30×10½ feet
Guns:	1—3·1 inch (8 cm.), 21—25 mm. AA., 12 D.C.
Machinery:	Turbine. S.H.P.: 2,500=16 kts.
Boilers:	2

Notes
Ex-Japanese. Vehicle carrying ship discharging through bow doors.

312 KUN LUN (ex-*Hai Chi*, ex-Japanese *Kaiki*)

Displacement:	1,612 tons *standard*
Dimensions:	261 (*o.a.*)×43½×12 feet
Guns:	1—40 mm., 4—25 mm., 2—20 mm., 6 M.G
Machinery:	Reciprocating. H.P.: 1,650=9 kts.
Complement:	130

Notes
Built in 1919. Small coastal transport.

314 NAN HU (ex-S.S. *Tai Hui*, ex-S.S. *Steelmotor*)

Displacement:	1,695 tons *standard*
Dimensions:	250×42½×16½ feet
Machinery:	Diesel. Speed 8·5 kts.
Complement:	85

Notes
Built in U.S.A. in 1923. Cargo ship/transport. Captured and taken over by Chinese (Taiwan) Navy.

313 HUEI FENG
316 TIEN TAI
315 CHIU HUA
317 CHUNG SHAN

Notes
Displacements and other particulars vary in individual ships.

OILERS

301 OMEI (ex-U.S.S. *Maumee*)

Displacement:	4,990 tons *standard* (14,500 tons *full load*)
Dimensions:	475⅜ (*o.a.*)×56×10 (*mean*), 26¼ (*max.*) feet
Guns:	5—3 inch, 2—40 mm. AA., 8—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 5,000=14 kts.
Oil fuel:	820 tons

Notes
Built at Mare Island Yard, U.S.A. Cargo capacity 7,850 tons. Launched on 17 Apr. 1915.

KUEI CHI (ex-Soviet *Tuapse*)

Notes
Petrol tanker Captured in 1954 and commissioned in Chinese Nationalist Navy in Feb. 1956.

304 SZU MING (ex-U.S.S. *YO* 198)

Displacement:	1,400 tons *full load*
Dimensions	174(*o.a.*)×32×15
Guns:	1—25 mm., 2—20 mm., 2 M.G.
Machinery:	Diesel. B.H.P.: 560=11 kts.

Notes
Built in U.S.A. in 1945 by Manitowoc Shipbuilding Co., Wis. Oil capacity 6,570 barrels.

302 HSIN KAO (ex-*Tai Hwa*, ex-U.S.S, *Towaliga*, *AOG* 42)
303 YU CHUAN (ex-*Wautauga*, *AOG* 22, ex-*Conrol*, ex-*YOG* 52, U.S.S. *Sakatonchee*)

Displacement:	700 tons *standard* (2,700 tons *full load*)
Measurement:	1,453 tons *deadweight*
Dimensions:	212½ (*w.l.*), 220½ (*o.a.*)×37×12⅔ feet
Guns:	1—3 inch, 2—40 mm. AA., 3—20 mm., AA.
Machinery:	Diesel. 1 shaft. B.H.P.: 800=10 kts.

Notes
Ex-U.S. TI-M-A2 type small oilers. Both above ships are ex-U.S. "Mettawee" class. *Hsin Kao* was launched by East Coast Shipyards on 29 Oct. 1944, and *Yu Chuan* by Todd Galveston S.B. Co. on 10 Jan. 1944.

305 HO LAN (ex-Polish oiler *Praca*)

Measurement:	8,410 tons *gross*

Notes
Seized by Nationalist China in Oct. 1953.

FLEET TUGS

341 PU TO (ex-*ATR* 26)

Displacement:	850 tons *standard* (1,312 tons *full load*)
Dimensions:	155 (*w.l.*) 165½ (*o.a.*)×33½×15½ feet
Guns:	1—25 mm., 4 M.G.
Machinery:	Triple expansion. I.H.P.: 1,600=12 kts.
Boiler:	Babcock & Wilcox
Complement:	52

Notes
Launched on 23 Apr. 1944. Built of wood. It was hoped to acquire 4 more tugs of above type, 4 of ATA type, and 30 smaller ones.

342 WU KUNG (ex-*Pei Chi* No. 1, ex-*LT*)
343 TA MING (ex-*LT* 300)
334 TA HUNG (ex-*LT* 530)
336 TA CH'ING (ex-*LT* 355)

Displacement:	570 tons *light* (967 tons *full load*)
Dimensions:	149 (*o.a.*)×33×15 feet
Guns:	1—40 mm., 2—20 mm.
Machinery:	Reciprocating. Oil fuel. H.P.: 1,200=12 kts.
Complement:	20

Notes
Built in U.S.A. in 1943. *Ta Ch'ing* reported decommissioned on 1 June 1951.

345 TA YU (ex-*LT* 310)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	143 (*o.a.*)×33×14 feet
Guns:	2—25 mm., 2 M.G.
Machinery:	Diesel-electric. H.P.: 1,500=12·5 kts.

Notes
Former U.S. Army tug of the ATA/ATR 143 ft. class. Built in the U.S.A. in 1944-45.

ROYAL THAI NAVY

Administration

Minister of Defence:
General Thanom Kittikachorn

Commander-in-Chief of Navy and Chief of Naval Staff:
Admiral Luang Chamnarn Adhayudha

Naval Attaché in London:
Commodore Abhai Sitakalin

Personnel

1960: *Navy*, 2,000 officers and 16,000 ratings
Marine Corps, 130 officers and 3,200 men

DESTROYER ESCORT

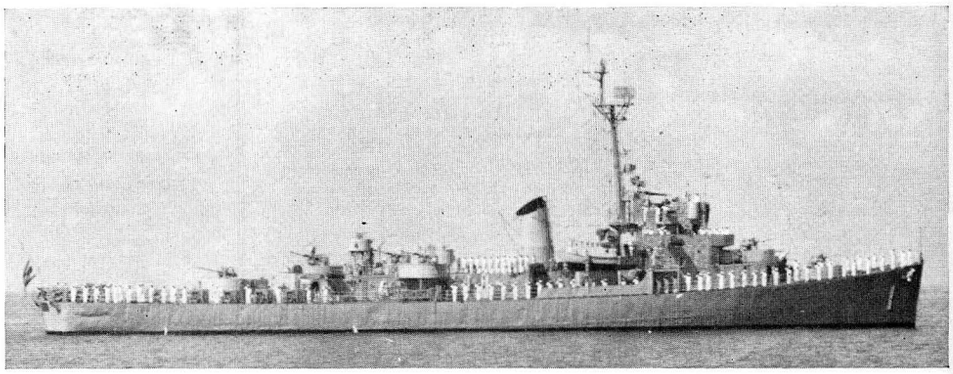
Ex-U.S. DE Type

1 "Bostwick" Class

PIN KLAO (ex-U.S.S. *Hemminger*, *DE* 746)

Builders:	Western Pipe & Steel Co.
Launched:	12 Sep. 1943
Completed:	30 May 1944

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅝ × 14 (*max.*) feet
Guns:	3—3 inch, 50 cal. dual purpose; 2—40 mm. AA.; 4—20 mm. AA.
Tubes:	Removed
A/S weapons:	Depth charge throwers
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000=21 kts. (designed), 20 kts. sea speed
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220



PIN KLAO — 1960, *Royal Thai Navy*, *Official*

Notes
Former United States patrol vessel (destroyer escorts) of the DE type, "Bostwick" class. Transferred from the United States Navy to Thailand at New York Naval Shipyard in July 1959 under the Mutual Defense Assistance Program and given the new Thai name *Pin Klao*.

FRIGATES

Ex-U.S. PF Type

2 "Prasae" Class

PRASAE (ex-U.S.S. *Gallup*, *PF* 47)

TACHIN (ex-U.S.S. *Glendale*, *PF* 36)

Name:	*Prasae*	*Tachin*
Pennant No.:	1	2
Builders:	Consolidated Steel Corporation, Los Angeles	Consolidated Steel Corporation, Los Angeles
Laid down:	18 Aug. 1943	6 Apr. 1943
Launched:	17 Sep. 1943	28 May 1943
Completed:	29 Feb. 1944	1 Oct. 1943

Displacement:	1,430 tons *standard* (2,100 tons *full load*)
Dimensions:	304 (*o.a.*) × 37½ × 13⅜ (*max.*) feet
Guns:	3—3 inch, 50 cal. *d.p.*; 10—40 mm. and 20 mm. AA.
A/S weapons:	6 D.C.T.
Machinery:	Triple expansion, 2 shafts. I.H.P.: 5,500=20 kts.
Boilers:	2 small water tube, three-drum type
Oil fuel:	685 tons
Radius:	9,500 miles at 12 kts.
Complement:	180



TACHIN — 1953, *Royal Thai Navy*, *Official*

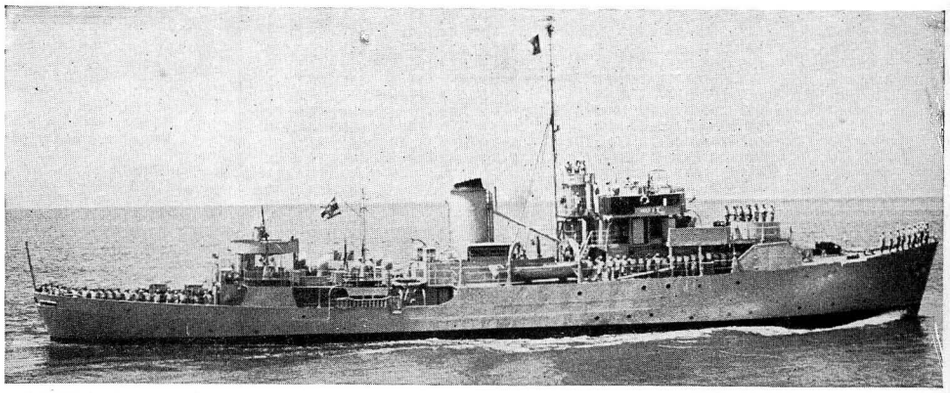
Notes
Former United States patrol frigates of the "Tacoma" class, or PF type. Delivered to the Royal Thai Navy on 29 Oct. 1951. They are of similar design to the British frigates of the "River" class.

1 Ex-British "Flower" Class

BANGPAKONG (*ex-Gondwana*, *ex-Burnet*)

Builders:	Ferguson Bros. Ltd., Port Glasgow
Laid down:	2 Nov. 1942
Launched:	31 May 1943
Completed:	23 Sep. 1943

Displacement:	1,060 tons *standard* (1,350 tons *full load*)
Dimensions:	193 (*pp.*), 203¼ (*o.a.*) × 33 × 13¾ (*mean*) feet
Guns:	1—4 inch, 7—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	Triple expansion. I.H.P.: 2,880=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	282 tons
Radius:	4,800 miles at 12 kts.
Complement:	101 (129 war)



BANGPAKONG — 1955, *Royal Thai Navy*, *Official*

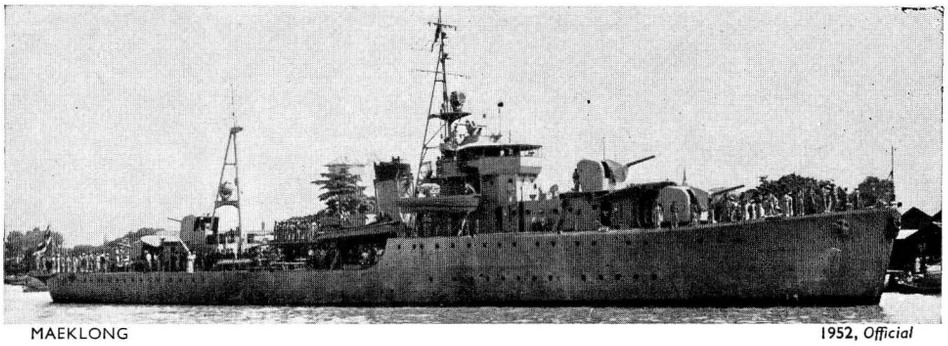
Notes
Former British corvette (later reclassified as a frigate) of the "Flower" class which served in the Indian Navy before she was transferred to the Royal Thai Navy. Sister ship *Prasae* (ex-*Sind*, ex-*Betong*) was lost during the Korean War on 13th January, 1951.

Frigates—*continued*

1 Sloop Type

MAEKLONG

Builders:	Uraga Dock Co.
Ordered:	1934
Laid down:	1936
Launched:	27 Nov. 1936
Completed:	June 1937
Displacement:	1,400 tons *standard* (2,000 tons *full load*)
Dimensions:	269 × 34½ × 10¾ (*mean*) feet
Guns:	4—4·7 inch, 2—40 mm. AA., 2—20 mm. AA.
Tubes:	4—18 inch
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,500=14 kts.
Boilers:	2 water-tube
Oil fuel:	487 tons
Radius:	8,000 miles at 12 kts.
Complement:	155 (as training ship)



MAEKLONG — 1952, *Official*

Notes

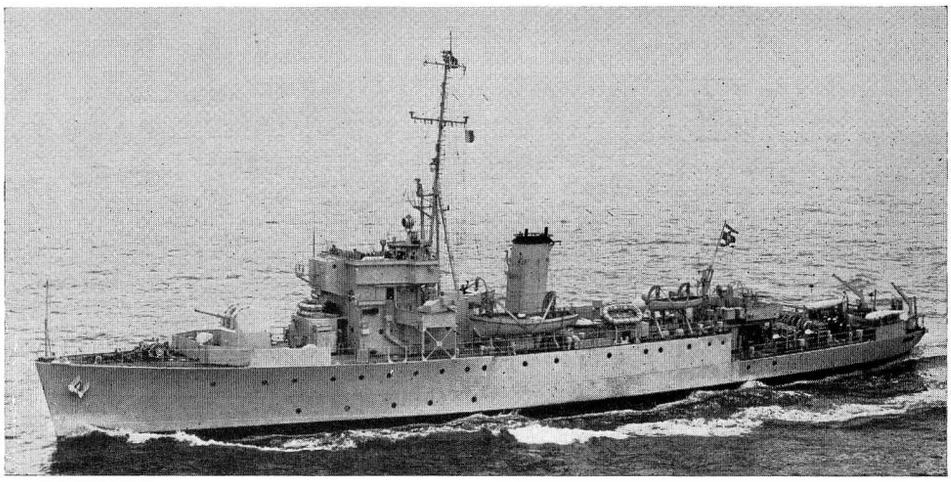
Designed as a dual-purpose sloop and torpedo boat. Fitted for minesweeping. Employed as a training ship. May be disposed of in the near future. Sister ship *Tachin* was heavily damaged during the Second World War on 1 June 1945 and eventually scrapped.

ESCORT MINESWEEPER

1 Ex-British "Algerine" Class

PHOSAMTON (ex-H M.S. *Minstrel*)

Builders:	Redfern Construction Co.
Laid down:	1943
Launched:	5 Oct. 1944
Completed:	1945
Displacement:	1,040 tons *standard* (1,335 tons *full load*)
Dimensions:	225 (*o.a.*) × 35½ × 10½ feet
Guns:	1—4 inch, 3—20 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion 2 shafts I.H.P.: 2,000=16 kts.
Boilers:	2, of 3-drum type
Oil fuel:	270 tons
Radius:	5,000 miles at 10 kts., 3,000 miles at 15 kts.
Complement:	103



PHOSAMTON — 1957, *Official*

Notes

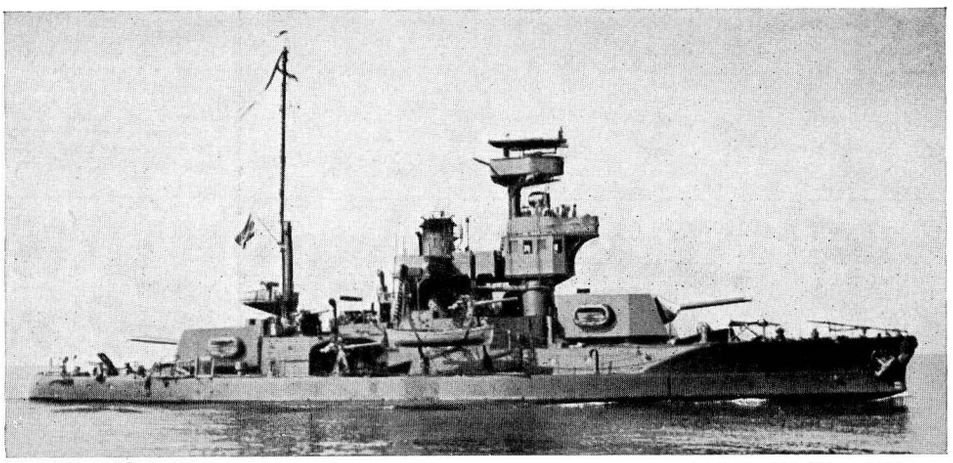
Former British "Algerine" class minesweeper of ocean-going type capable of fleet sweeping and escort duties.

ARMOURED GUNBOATS

2 Coast Defence Type

	RATANAKOSINDRA	**SUKOTHAI**
Name:	*Ratanakosindra*	*Sukotha*
Builders:	Armstrong, Newcastle	Vickers Armstrong
Laid down:	29 Sept. 1924	Dec. 1928
Launched:	21 Apr. 1925	19 Nov. 1929
Completed:	Aug. 1925	Dec. 1930

Displacement:	886 tons *standard* (1,000 tons *full load*)
Dimensions:	160 (*pp.*), 173 (*o.a.*) × 37 × 10¾ feet
Guns:	2—6 inch, 4—3 inch AA., 2—40 mm. AA., 2—20 mm. AA.
Armour:	Side 2½″ (amidships), 1¼″ ends, nickel steel; barbette rings, 2½″ nickel steel; C.T., 4¾″ cast steel armour; Upper deck, 1¼″-¾″ high tensile steel
Machinery:	Triple expansion. 2 shafts. I.H.P.: 850=12 kts.
Boilers:	2 oil-burning water-tube, working pressure 225 lbs.
Oil fuel:	96 tons
Radius:	2,000 miles at 10 kts.
Complement:	103



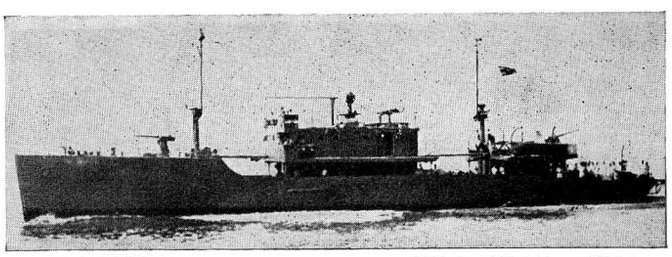
RATANAKOSINDRA — 1950, *Royal Thai Navy, Official*

COASTAL MINELAYERS

2 Italian Type

BANGRACHAN (No. 1) **NHONG SARHAI** (No. 2)

Displacement:	368 tons *standard* (408 tons *full load*)
Dimensions:	160¾ × 26 × 7¼ feet
Guns:	2—3 inch AA. 2—20 mm. AA.
Mines:	142 capacity
Machinery:	Burmeister & Wain diesel engines. 2 shafts. B.H.P.: 540=12 kts.
Oil fuel:	18 tons
Radius:	2,700 miles
Complement:	55

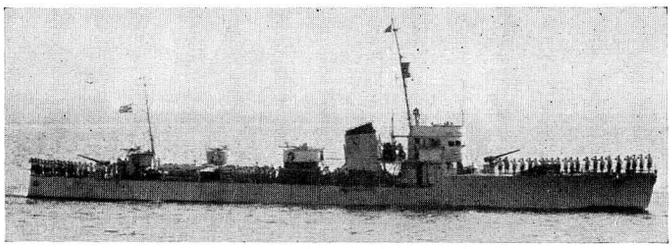


BANGRACHAN — 1956, *Royal Thai Navy, Official*

Notes

Built by Cant. Riuniti dell' Adriatico, Monfalcone. Launched 1936 and 22 July, 1936, respectively.

PATROL VESSELS (*Torpedo Boats*)



TRAD — 1956, *Royal Thai Navy, Official*

7 Italian Type

TRAD (No. 11) 26 Oct. 1935
PUKET (No. 12) 28 Sep. 1935
PATTANI (No. 21) 16 Oct. 1936
SURASDRA (No. 21) 28 Nov. 1936
CHANDABURI (No. 22) 16 Dec. 1936
RAYONG (No. 23) 11 Jan. 1937
CHUMPORN (No. 31) 18 Jan. 1937

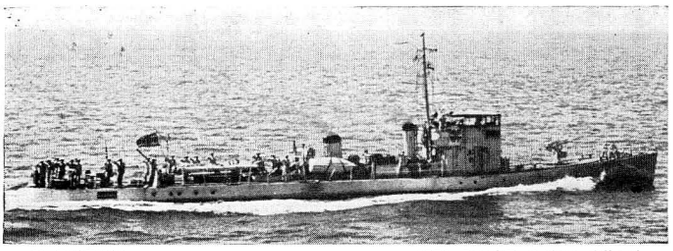
Displacement:	318 tons *standard* (470 tons *full load*)
Dimensions:	219 (*pp.*), 223 (*o.a.*) × 21 × 7 (*max.*) feet
Guns:	3—3 inch AA., 2—20 mm. AA., 4—8 mm.
Tubes:	6—18 inch (2 single, 4 paired)
Machinery:	Parsons geared turbines. 2 shafts. H.P.: 9,000=31 kts.
Boilers:	Yarrow
Oil fuel:	102 tons
Radius:	1,700 miles at 15 kts.
Complement:	70

Notes
First two were laid down on 8 Feb. 1935 by Cantieri Riunti dell' Adriatico, Monfalcone, for delivery by the end of 1935. Launch dates above. Armament was supplied by Vickers-Armstrongs Ltd. First boat reached 32·54 kts. on trials with 10,000 H.P. All delivered by summer of 1937. *Cholburi* and *Songkhla* were sunk in action with a French squadron on 17 Jan. 1941. It is planned to convert these torpedo boats to anti-submarine patrol vessels.

1 Thai Type

SATTAHIB (No. 8)

Notes
Built and equipped by the Royal Thai Naval Dockyard, Bangkok. Laid down on 22 Nov. 1956. Launched on 28 Oct. 1957. Of the same type as the Japanese built torpedo boats, see below.



KLONGYAI — 1956, *Royal Thai Navy, Official*

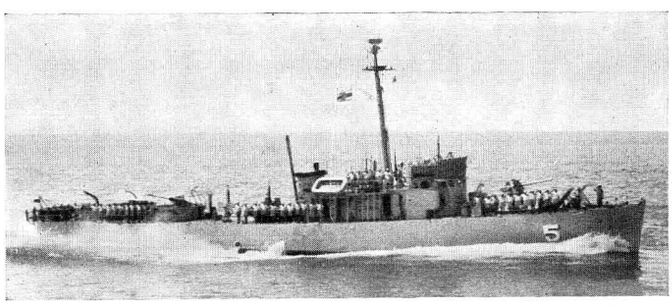
3 Japanese Type

KANTANG (No. 7) **KLONGYAI** (No. 5) **TAKBAI** (No. 6)

Displacement:	110 tons *standard* (135 tons *full load*)
Dimensions:	131½ × 15½ × 4 feet
Guns:	1—3 inch, 1—20 mm.
Tubes:	2—18 inch
Machinery:	Geared turbines. 2 shafts. S.H.P.: 1,000=19 kts.
Boilers:	2 water-tube
Oil fuel:	18 tons
Radius:	480 miles
Complement:	31

Notes
Built by Ishikawajima Co. All launched on 26 Mar. 1937. All completed on 21 June 1937.

PATROL VESSELS (*Submarine Chasers*)



PHALI — 1956, *Royal Thai Navy, Official*

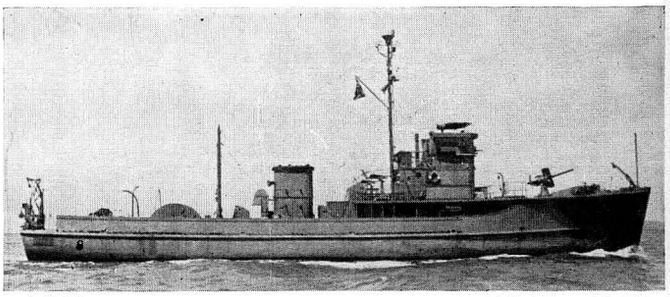
7 Ex-U.S. PC Type

LIULOM (*ex-PC* 1253)
LONGLOM (*ex-PC* 570)
PHALI (*ex-PC* 1185)
SARASIN (*ex-PC* 495)
SUKRIP (*ex-PC* 1218)
THAYANCHON (*ex-PC* 575)
TONGPLIU (*ex-PC* 616)

Displacement:	280 tons *standard* (400 tons *full load*)
Dimensions:	174 (*o.a.*) × 23¼ × 6 feet
Guns:	1—3 inch AA., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 3,600=19 kts.
Oil fuel:	60 tons
Radius:	6,000 miles at 10 kts.
Complement:	62 to 71

Notes
Former United States submarine chasers of the PC type. Launched in 1941-43. Used to prevent smuggling and as anti-submarine boats. *Khamronsin* (ex-*PC* 609) was removed from the effective list in 1956.

COASTAL MINESWEEPERS



LADYA — *Royal Thai Navy, Official*

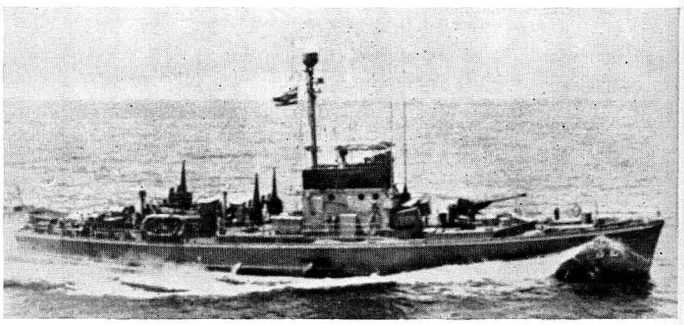
3 Ex-U.S. YMS Type

BANGKEO (*ex-YMS* 334) **LADYA** (*ex-YMS* 138) **TA DINDENG** (*ex-YMS* 21)

Displacement:	300 tons *standard* (325 tons *full load*)
Dimensions:	136 × 24½ × 6 feet
Guns:	1—3 inch, 2—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	G.M. diesel. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	20 tons
Radius:	2,500 miles at 9 kts.
Complement:	51

Notes
Former United States motor minesweepers of the *YMS* type. Hull is of wooden construction.

PATROL BOATS (*Submarine Chasers*)



SC 32 — 1959, *Royal Thai Navy, Official*

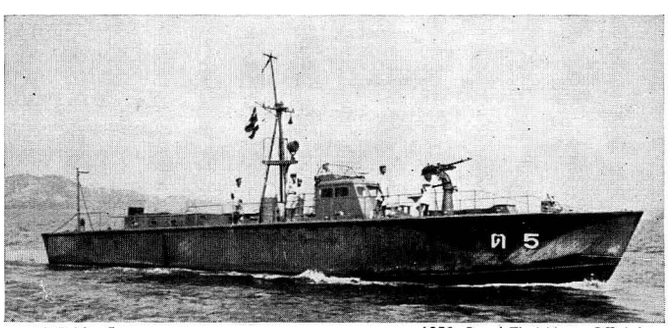
3 Ex-U.S. SC Type

SC 31 (*ex-SC* 1632) **SC 32** (*ex-SC* 1633) **SC 33** (*ex-SC* 1634)

Displacement:	110 tons *light* (125 tons *full load*)
Dimensions:	111 × 17 × 6 feet
Guns:	1—40 mm., 3—20 mm.
A/S weapons:	Depth Charges, Mousetrap
Machinery:	High-speed diesel=18 kts.

Notes
Former United States submarine chasers of the SC type. Of wooden hull construction. Built by the South Coast Co., Newport Reach, California, in 1954-55. Transferred to Thailand from the United States under the Mutual Defense Assistance Program.

MOTOR PATROL BOATS



MPB No. 5 — 1950, *Royal Thai Navy, Official*

4 Coastal Type

MPB 2 **MPB 4** **MPB 5** **MPB 6**

Displacement:	16 tons
Guns:	1—20 mm. AA.
Machinery:	Gray Marine engines. Speed: 12·5 kts.

Notes
Built and equipped at Royal Thai Navy Dockyard, Bangkok, and engined by Gray.

Recent Disposals
MPB 1 and *MPB* 3 were removed from the effective list in 1956.
Of the motor torpedo boats (coastal motor boats) of the British Thornycroft type, *CMB* 8, *CMB* 10 and *CMB* 12 were removed from the effective list in 1956, and *CMB* 9 and *CMB* 11 were stricken off in 1960.

COASTGUARD VESSELS



CGC 14 *Royal Thai Navy, Official*

4 Ex-U.S. CGC Type

CGC 13 **CGC 14** **CGC 15** **CGC 16**

Displacement:	95 tons
Dimensions:	95 × 20½ × 5 feet
Machinery:	4 diesels. 2 shafts. B.H.P.: 2,200=21 kts.
Radius:	1,500 miles cruising range
Complement:	15

Notes

New coast guard cutters transferred from the United States to Thailand in 1954. Similar to the 12 new C.G.C. built for U.S.C.G. Built by U.S. Coast Guard Yard, Curtis Bay, Maryland, in 1953. Cost $475,000 each.



CGC 12 1959, *Royal Thai Navy, Official*

2 Ex-U.S. YP Type

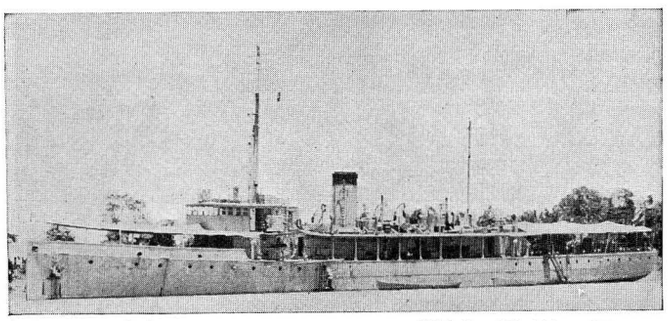
CGC 11 **CGC 12**

Displacement:	44·5 tons
Dimensions:	83½ × 16 × 4½ feet
Guns:	1—20 mm. AA.
Machinery:	2 Viking petrol engines. B.H.P.: 1,300=20·5 kts.

Notes

Former U.S. Coast Guard cutters of the YP class. Of wooden hulled construction.

TRAINING SHIP *(Ex-Fleet Minesweeper)*



CHOW PRAYA 1956, *Royal Thai Navy, Official*

1 Ex-British "Racecourse" Class

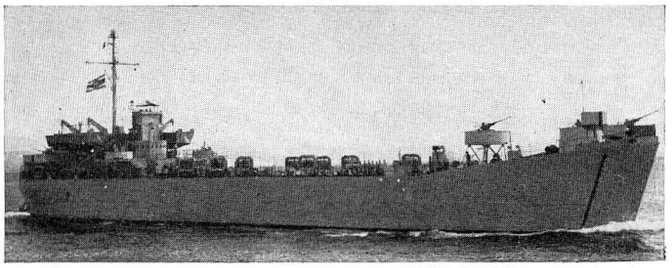
CHOW PRAYA *(ex-H.M.S. Havant)*

Displacement:	680 tons *standard* (840 tons *full load*)
Dimensions:	220 × 28½ × 7½ feet
Guns:	2—57 mm. AA., 1—40 mm. AA.
Machinery:	Vertical triple expansion. 2 shafts. I.H.P.: 2,200=16 kts.
Boilers:	Yarrow, converted to burn oil
Oil fuel:	160 tons
Radius:	1,750 miles at 15 kts.
Complement:	65

Notes

Former British fleet minesweeper of the "Racecourse" class. Built by Eltringhams, South Shields. Launched in Nov. 1918. Purchased in 1923 and reconstructed by Messrs. John I. Thornycroft & Co. Ltd., Southampton. Guns are interchangeable for training.

LANDING SHIPS



ANGTON 1956, *Royal Thai Navy, Official*

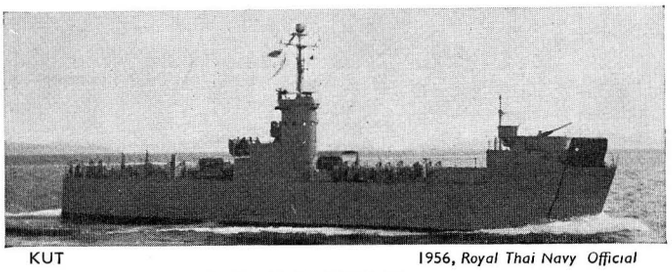
Ex-U.S. LST Type

ANGTON *(ex-U.S. LST)*

Displacement:	1,625 tons *standard* (3,590 tons *full load*)
Dimensions:	322½ × 50½ × 14 feet
Guns:	6—40 mm., 4—20 mm.
Machinery:	High speed diesel=11 kts.
Complement:	80

Notes

Former United States tank landing ship of the LCT type. Employed as a transport.



KUT 1956, *Royal Thai Navy Official*

2 Ex-U.S. LSM Type

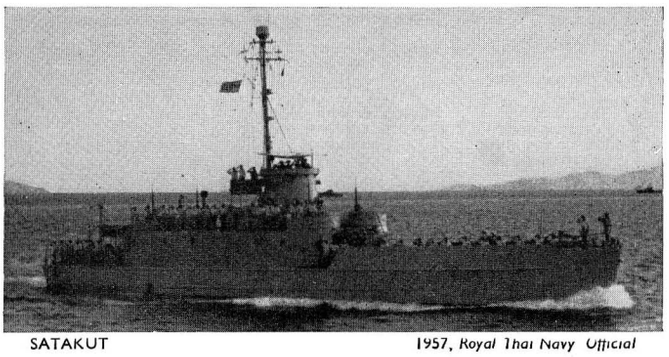
KUT *(ex-LSM)* **PHAI** *(ex-LSM)*

Displacement:	743 tons *standard* (1,095 tons *full load*)
Dimensions:	203½ × 23 × 8 feet
Guns:	2—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=10 kts.
Complement:	55

Notes

Former United States landing craft of the LCM, later LSM (Medium Landing Ship), type.

LANDING CRAFT



SATAKUT 1957, *Royal Thai Navy Official*

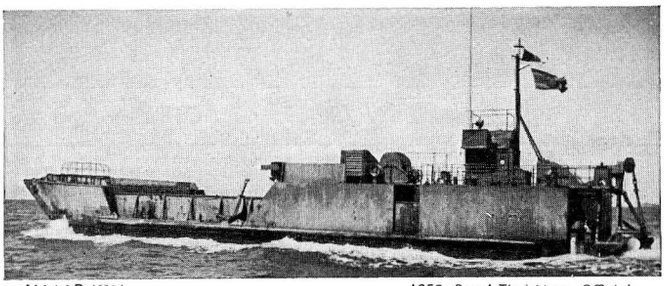
2 Ex-U.S. LCI Type

PRAP *(ex-LCI)* **SATAKUT** *(ex-LCI)*

Displacement:	230 tons *standard* (387 tons *full load*)
Dimensions:	157 × 23 × 6 feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,320=14 kts.
Complement:	54

Notes

Former United States landing craft of the LCI (Infantry Landing Craft) type. Photograph of *Prap* in the 1957-58 and earlier editions.



MATAPHON 1950, *Royal Thai Navy, Official*

Ex- U.S. LCT (6) Type

ADANG **MATAPHON** **RAVI**
KOLAM **PETRA** **TALIBONG**

Displacement:	134 tons *standard* (279 tons *full load*)
Dimensions:	112 × 32 × 4 feet
Guns:	2—20 mm. AA.
Machinery:	Diesel. 3 shafts. B.H.P.: 675=10 kts
Complement:	37

Notes

Former United States tank landing craft of the LCT(6) type. Employed as transport ferries.

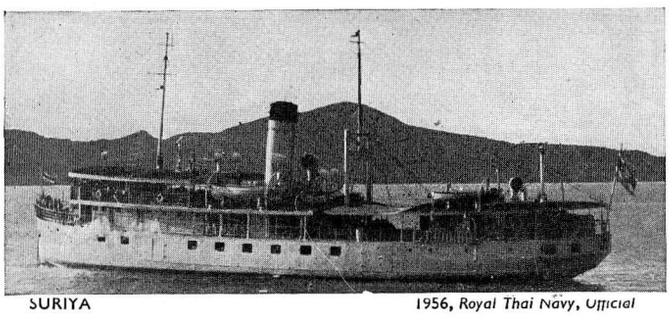
TRANSPORTS

KLED KEO

Displacement:	180 tons *standard*
Dimensions:	115×16×6 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 300=8 kts.
Complement:	23

Notes
Launched in 1953.

Recent Disposals
Three transports, *Chart Narwee*, *Kiat Narwee* and *Winae Narwee* were officially deleted from the list in 1958.



SURIYA 1956, *Royal Thai Navy, Official*

SURIYA (*ex-Thalang*)

Displacement:	920 tons *standard*
Dimensions:	175×34⅝×16¼ feet
Speed:	10 kts. (approx.)
Complement:	76

Notes
Mercantile type converted. Used for various purposes including occasional surveying duties.

PANGAN SICHANG

Displacement:	815 tons *standard*
Dimensions:	160×28×16 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 550=16 kts.
Complement:	30

Notes
Built by Harima Co., Japan. *Sichang* was launched on 10 Nov. 1937. Completed in Jan. 1938. A photograph of this ship appears in the 1953-54 to 1959-60 editions.

CHANG (*ex-Vides Kichkar, ex-Buk, ex-Lycidas*)

Displacement:	850 tons *standard*
Dimensions:	176×27½×10 feet
Machinery:	H.P.: 780=9 to 10 kts.

Notes
Built by Ritson & Co., Maryport; launched in 1902. Transport and supply tender.

CHUANG (*ex-Pra-Yom*

Displacement:	190 tons *standard*
Dimensions:	110×18×8 (*mean*) feet
Machinery:	H.P.: 225=10 kts.
Complement:	30

Notes
Small transport employed on general utility and tender duties.

KRAM (*ex-Chen Thale*)

Measurement:	440 tons *gross*
Dimensions:	160×27×— feet
Machinery:	I.H.P.: 330=8 kts.

Notes
Built by the Hongkong and Whampoa Dock Co.; launched in 1902. Used for various purposes, including occasional surveying duties.

SAMED (*ex-Pi-Sua-Nam*)

Displacement:	129 tons *standard*
Dimensions:	100×20×8½ (*mean*) feet
Machinery:	Triple expansion. I.H.P.: 210=9 kts.
Complement:	26

Notes
Launched in 1906. Acquired in 1918. Formerly rated as a despatch vessel. Rated as a transport in 1958.

OILERS

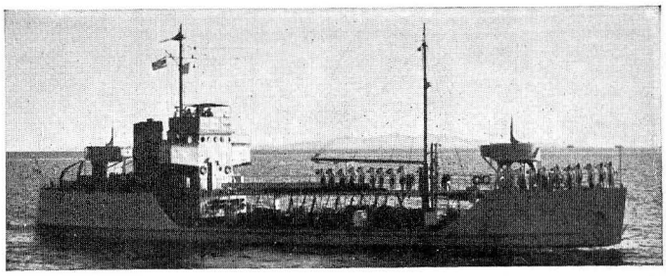
CHULA

Displacement:	2,395 tons *standard*
Dimensions:	328×43½×25 feet
Machinery:	Steam turbine

Notes
This tanker and *Matra* (see below) were acquired for naval oiling duties.

MATRA

Displacement:	4,744 tons
Dimensions:	328×45½×20 feet
Machinery:	Steam turbine



SAMUI 1956, *Royal Thai Navy, Official*

SAMUI

Displacement:	422 tons *standard*
Dimensions:	174½×32×15 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 600=8 kts.
Complement:	49

Notes
Small tanker of the ex-YOG type. Photograph in the 1957-58 and earlier editions.

PRONG

Displacement:	150 tons *standard*
Dimensions:	95×18×7½ feet
Machinery:	Diesel. B.H.P.: 150=10 kts
Complement:	14

Notes
Launched in 1938.

WATER CARRIER

JARN

Displacement:	355 tons *standard*
Dimensions:	139½×24×— feet
Machinery:	Diesel. Speed=6 kts.

Notes
A photograph of this ship appears in the 1956-57 to 1959-60 editions.

TUGS

SAMAESAN (*ex-Empire Vincent*)

Displacement:	503 tons (*full load*)
Dimensions:	105×26½×13 feet
Machinery:	Triple expansion. I.H.P.: 850=10·5 kts.
Complement:	27

Notes
Built by Cochrane & Sons Ltd., Selby, Yorks., England. Photograph in the 1957-58 and earlier editions.

RANG KWIEN

Displacement:	586 tons *standard*
Dimensions:	162½×31½×13 feet
Machinery:	Triple expansion steam engine. Speed=10 kts.

KLUENG BADAN MARN VICHAI

Displacement:	63 tons *standard*
Dimensions:	64⅜×16½×6 feet
Machinery:	Diesel. Speed=8 kts.

RAD

Displacement:	52 tons *standard*
Dimensions:	60⅜×17½×5 feet
Machinery:	Diesel. Speed=6 kts.

TUNISIA

CORVETTE (Rated as *Aviso*)

1 Ex-French Early "Chevreuil" Class

CHEVREUIL

Displacement:	647 tons *standard* (920 tons *full load*)
Dimensions:	257×28½×10½ feet
Guns:	1—4·1 inch, 1—40 mm., 6—20 mm.
A/S weapons:	4 D.C.T., 2 D.C. racks
Machinery:	Sulzer diesels. S shafts. B.H.P.: 4,000=20 kts.
Radius:	10,000 miles at 9 kts. 5,200 miles at 15 kts.
Oil fuel:	100 tons
Complement:	100 (8 officers, 92 men)

Notes
Chevreuil was built under the 1935 programme at Lorient Dockyard. She was laid down in Apr. 1937, launched on 17 June 1939 and completed in Oct. 1939. Transferred from the French Navy to the Tunisian Navy on 13 Oct. 1959. Pennant No. F 735.

SEAWARD PATROL CRAFT (*Vedette de Port*)

1 Ex-French VC Type

P 751 VC 1

Displacement:	75 tons *standard* (82 tons *full load*)
Dimensions:	104½×15½×5½
Guns:	2—20 mm. AA.
Machinery:	2 Mercedes-Benz diesels. 2 shafts B.H.: 2,700=28 kts
Radius:	1,500 miles at 15 kts.
Complement:	15

Notes
Seaward defence motor launch of a new type. Completed in 1958. Built by Lurssens in Germany. Transferred from the French Navy to the Tunisian Navy on 22 Sep. 1959. Employed off the North African coast.

TURKEY

Administration

Commander-in-Chief, Turkish Naval Forces:
Koramiral Fahri Korutürk
Chief of Staff, Turkish Naval Forces:
Tümamiral Seref Karapinar
Commander of the Fleet:
Tümamiral Aziz Ulusan
Commander of the Straits and the Marmara:
Koramiral Zeki Ozak

Commander of Surface Action Forces:
Tügamiral Tevfik Şargut

Commander of Submarine Forces:
Tügamiral Afif Turgul

Naval Attaché, London:
Captain Mithat Üler

Personnel

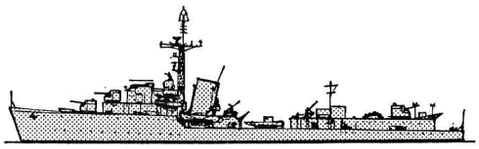
1960: 1,500 officers and 25,000 ratings

Mercantile Marine

Lloyd's Register of Shipping:
275 vessels of 588,176 tons *gross*.

Silhouettes

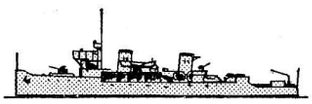
Scale: 150 ft. = 1 inch.



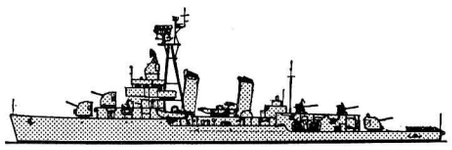
ALP ARSLAN *Class*



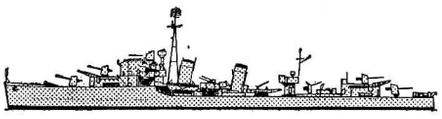
GAYRET



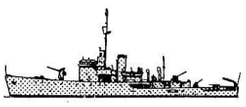
ÇANDARLI *Class*



GELIBOLU *Class*

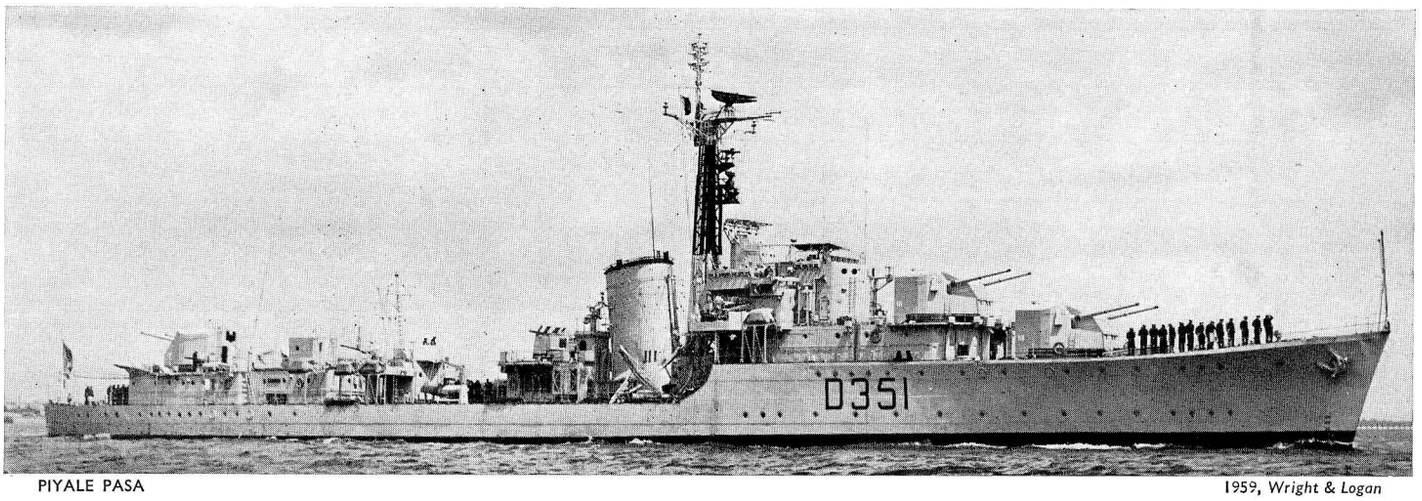


DEMIRHISAR *Class*



ALANYA *Class*

DESTROYERS



PIYALE PASA

1959, *Wright & Logan*

Ex-British "Milne" Type

4 "Alp Arslan" Class

ALP ARSLAN (ex-H.M.S. *Milne*)
KILIÇ ALI PASA (ex-H.M.S. *Matchless*)
MARESAL FEVZI ÇAKMAK (ex-H.M.S. *Marne*)
PIYALE PASA (ex-H.M.S. *Meteor*)

Displacement:	2,000 to 2,015 tons *standard* (2,840 tons *full load*)
Dimensions:	354 (*pp.*), 362½ (*o.a.*) × 36¾ × 10 (*mean*), 16½ (*max.*) feet
Guns:	6—4·7 inch, 6—40 mm. Bofors AA. (one twin, four singles), 2—3 pdr. (saluting)
Tubes:	4—21 inch
A/S weapons:	1 triple barrelled depth charge mortar (Squid)
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 48,000=36 kts. (designed)
Boilers:	2 Admiralty 3-drum type

General Notes
Former British "Milne" class destroyers, one of the most successful and handsome types which ever served in the Royal Navy. The first British destroyers to have three power worked turrets. Transferred to Turkey under an agreement signed in Ankara on 16 Aug. 1957. Nominally handed over to the Turkish Navy at Portsmouth on 29 June 1959 after refit in British shipyards, where the after tubes and secondary armament were removed and replaced by deckhouse, Squid and Bofors. Renamed after famous generals and 16-18th century admirals.



ALP ARSLAN

1959, *P. J. Gildea-Evans*

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
D 349	*Fevzi Çakmak*	Vickers Armstrongs, Ltd. (Tyne)	23 Oct. 1939	30 Oct. 1940	2 Dec. 1941
D 350	*Kiliç Ali Pasa*	Alex. Stephen & Sons Ltd., Govan	14 Sep. 1940	4 Sep. 1941	26 Feb. 1942
D 351	*Piyale Pasa*	Alex. Stephen & Sons Ltd., Govan	14 Sep. 1940	3 Nov. 1941	12 Aug. 1942
D 348	*Alp Arslan*	Scotts S. B. & Eng. Co. Ltd., Greenock	24 Jan. 1940	30 Dec. 1941	6 Aug. 1942

Recent Disposals of Destroyers
It was officially stated in 1960 that the elderly British built destroyers *Demirhisar*, *Muavenet* and *Sultanhisar* have been disqualified as obsolete.
The two old Italian built destroyers *Tinaztepe* and *Zafer* were discarded in 1957.

Battle Cruiser Notes
The very old Turkish (former German) battle cruiser *Yavuz* (ex-*Goeben*) was decommissioned in 1960. See full particulars, photograph, plan and elevation drawings, and silhouette in the 1959-60 and earlier editions.

Destroyers—*continued*

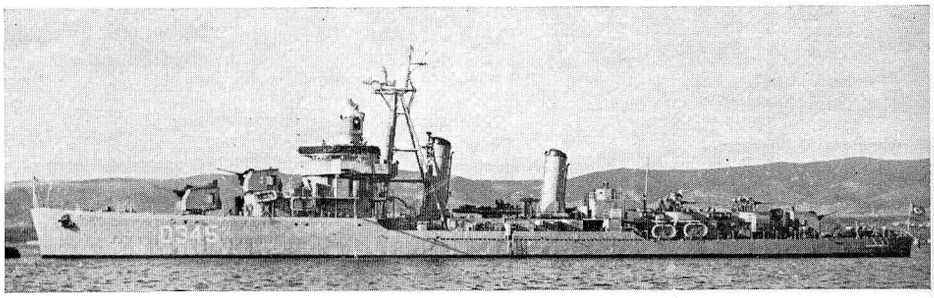
Ex-U.S. "Gleaves" Type
4 "Gelibolu" Class

GAZIANTEP (*ex-Lansdowne*) **GEMLIK** (*ex-Lardner*)
GELIBOLU (*ex-Buchanan*) **GIRESUN** (*ex-McCalla*)

Displacement:	1,630 to 1,700 tons *standard* (2,800 tons *full load*)
Dimensions:	341 (*w.l.*), 348½ (*o.a.*) × 36 × 10 (*light*), 18 (*max.*) feet
Guns:	3—5 inch, 38 cal., 4—3 inch AA.
Tubes:	5—21 inch
A/S weapons:	2 hedgehogs, 4 D.C.T.
Machinery	General Electric geared turbines 2 shafts. S.H.P.: 50,000=37 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	5,000 miles at 15 kts.
Complement:	250

Notes

Former American "Gleaves" class destroyers. *Gelibolu* and *Giresun* were transferred to Turkey from the U.S. Navy on 29 Apr. 1949. *Gaziantep* and *Gemlik* were transferred in 1950. All four were modified to meet up-to-date requirements in the United States during 1957-58, when they were fitted with tripod foremast and raised bridge and their No. 3 5-inch gun, Bofors and Oerlikon were removed and replaced by four 3 inch AA. guns.



GIRESUN (as refitted with tripod foremast, raised bridge and modified armament) 1959, *Turkish Navy, Official*

No.	*Name*	*Builders*	*Name*	*Laid down*	*Launched*	*Completed*
D 344	*Gaziantep*	Federal S.B. & D.D. Co., Port Newark	*Gaziantep*	July 1941	20 Feb. 1942	29 Apr. 1942
D 346	*Gelibolu*	Federal S.B. & D.D. Co., Port Newark	*Gelibolu*	11 Feb. 1941	22 Nov. 1941	21 Mar. 1942
D 347	*Gemlik*	Federal S.B. & D.D. Co., Port Newark	*Gemlik*	July 1941	20 Mar. 1942	13 May 1942
D 345	*Giresun*	Federal S.B. & D.D. Co., Port Newark	*Giresun*	July 1941	20 Mar. 1942	27 May 1942

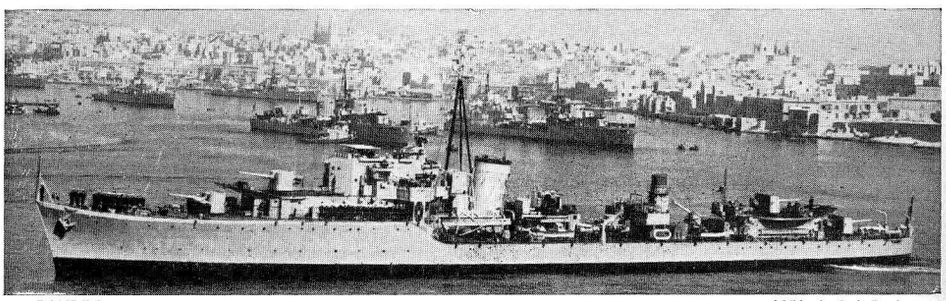
Ex-British "O" Class

GAYRET (*ex-H.M.S. Oribi, ex-Observer*)

Pennant No.:	D 341
Builders:	Fairfield S.B. & Eng. Co. Ltd.
Laid down:	15 Jan. 1940
Launched:	14 Jan. 1941
Completed:	5 July 1941
Displacement:	1,540 tons *standard* (2,290 tons *full load*)
Dimensions:	338½ (*pp.*), 345 (*o.a.*) × 35 × 9 feet
Guns:	4—4·7 inch, 1—4 inch, 4—2 pdr. pompoms, 4—20 mm. AA.
Tubes:	8—21 inch
A/S weapons:	4 D.C.T. on "X" deck
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 40,000=34 kts.
Boilers:	2, of 3-drum type
Oil fuel:	430 tons
Radius:	1,700 miles at 20 kts.
Complement:	220

General Notes

Former British "O" class destroyer transferred from Great Britain to Turkey in 1946 in replacement of the former *Gayret* requisitioned for the British Navy during the Second World War and lost in the hostilities.



GAYRET 1951, *A. & J. Pavia*

Conversion Notes

It is reported that this destroyer is to be converted into a command ship.

SUBMARINES

Ex-U.S. "Balao" Type
10 "Gur" Class

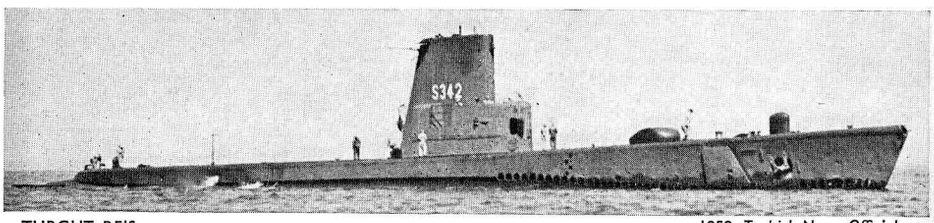
BIRINCI INÖNÜ (ex-U.S.S. *Brill*, *SS* 330)
CANAKKALE (ex-U.S.S. *Bumper*, *SS* 333)
CERBE (ex-U.S.S. *Hammerhead*, *SS* 364)
GÜR (ex-U.S.S. *Chub*, ex-*Bonat*, *SS* 329)
HIZIRREIS (ex-U.S.S. *Mero*, *SS* 378)
IKINCI INÖNÜ (ex-U.S.S. *Blueback*, *SS* 326)
PIRIREIS (ex-U.S.S. *Mapiro*, *SS* 376)
PREVEZE (ex-U.S.S. *Guitarro*, *SS* 363)
SAKARYA (ex-U.S.S. *Boarfish*, *SS* 327)
TURGUT REIS (ex-U.S.S. *Bergall*, *SS* 320)

Displacement:	1,526 tons (*standard*), 1,829 tons (*surface*), 2,424 tons (*submerged*)
Dimensions:	311¾ × 27½ × 13¾ feet
Guns:	2—5 inch, 25 cal., 2—40 mm., 4 M.G.
Tubes:	10—21 inch (6 bow, 4 stern), 24 torpedoes carried
Machinery:	General Motors 2-stroke diesels. B.H.P.: 6,500=19·5 kts. (*surface*), and electric motors, 9 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	78 to 85

Nato Pen. No.	*Turk Pen. No.*	*Name*	*Launched*	*Completed*
S 330		*Birinii Inönü*	25 June 1944	26 Oct. 1944
S 333	21	*Canakkale*	6 Aug. 1944	9 Dec. 1944
S 341	03	*Cerbe*	27 Oct. 1943	1 Mar. 1944
S 334	20	*Gur*	7 May 1944	28 Aug. 1944
S 344		*Hizir Reis*	17 Jan. 1945	17 Aug. 1945
S 331	17	*Ikinci Inönü*	21 May 1944	23 Sept. 1944
S 343		*Piri Reis*	9 Nov. 1944	30 Apr. 1945
S 340	22	*Preveze*	26 Sept. 1943	16 Jan. 1944
S 332		*Sakarya*	18 June 1944	21 Oct. 1944
S 342		*Turgut Reis*	16 Feb. 1944	12 June 1944

Notes

Former American submarines of the "Balao" type acquired by Turkey in 1948-60. All built by the Electric Boat Company, Groton, Connecticut, except *Cerbe*, *Hizirreis*, *Pirireis* and *Preveze*, by Manitowoc Shipbuilding Co. Of all-welded construction. They have a high standard of accommodation including separate messing and sleeping compartments. *Canakkale*, officially transferred in 1950, was semi-streamlined before delivery. *Dumlupinar* (ex-*Blower*) was lost in the Dardanelles on 4 Apr. 1953. *Preveze* semi-streamlined and *Cerbe*, fully streamlined, were transferred on 7 Aug. 1954 and Oct. 1954, respectively. *Cerbe* and *Preveze* are "guppy snorkel" conversions. Their loan was extended for five years in 1959. *Sakarya* was overhauled by the Electric Boat Division of the General Dynamics Corporation (formerly known as the Electric Boat Company), Groton, Connecticut, in 1957. *Turgut Reis* was transferred in Oct. 1958 and *Hizir Reis* and *Piri Reis* were transferred on 20 Apr. 1960 and 18 Mar. 1960 at San Francisco Naval Shipyard.



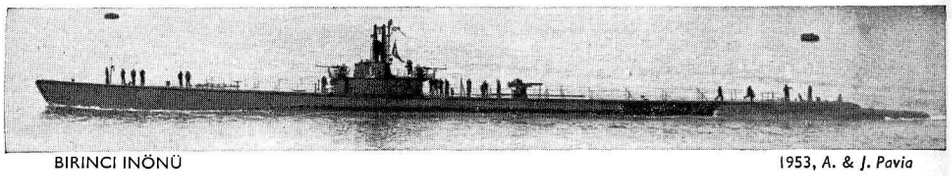
TURGUT REIS 1959, *Turkish Navy, Official*



GÜR (Streamlined) 1958, *A. & J. Pavia*



PREVEZE (semi-streamlined), showing Nato No. 1959, *A. & J. Pavia*



BIRINCI INÖNÜ 1953, *A. & J. Pavia*

Recent Disposals

The three British built submarines, *Burak Reis*, *Murat Reis* and *Oruç Reis*, and the two German designed submarines, *Saldiray* and *Yildiray*, were discarded in 1957.

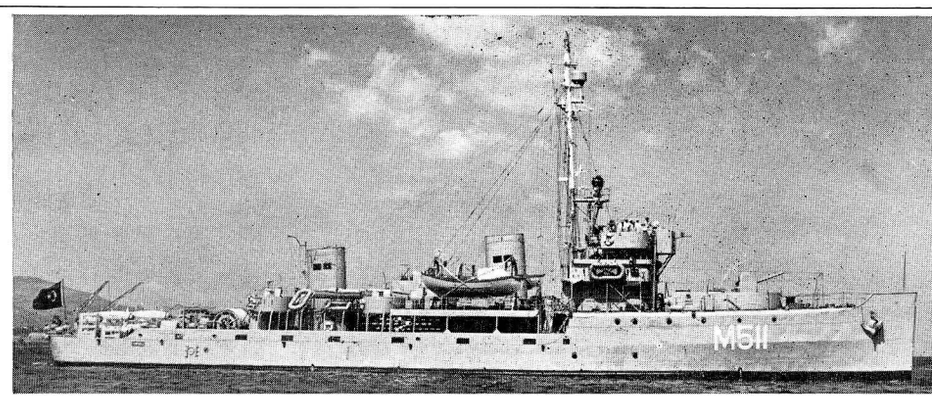
ESCORT MINESWEEPERS

Ex-U.S. "Auk" Type
8 "Candarli" Class

ÇANDARLI (*ex-Frolic*, 22 July 1943)
ÇARDAK (*ex-Tourmaline, ex-Usage*, 4 Oct. 1942)
ÇARSANBA (*ex-Tattoo*, 27 Jan. 1943)
ÇESME (*ex-Elfreda*, 25 Jan. 1943)

EDINCIK (*ex-Grecian*, 1943)
EDREMIT (*ex-Chance*, 28 Nov. 1942)
ERDEMLI (*ex-Catharine*, 7 Sep. 1943)
EREGLI (*ex-Pique, ex-Çelerity*, 26 Oct. 1942

Displacement:	1,010 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221 (*o.a.*) × 32 × 10¾ (*max.*) feet
Guns:	1—3 inch, 6—40 mm.
A/S weapons:	4 D.C.T.
Machinery:	Diesel, with electric drive. 2 shafts B.H.P.: 3,500=18 kts.
Complement:	105



EREGLI — 1959, *Turkish Navy, Official*

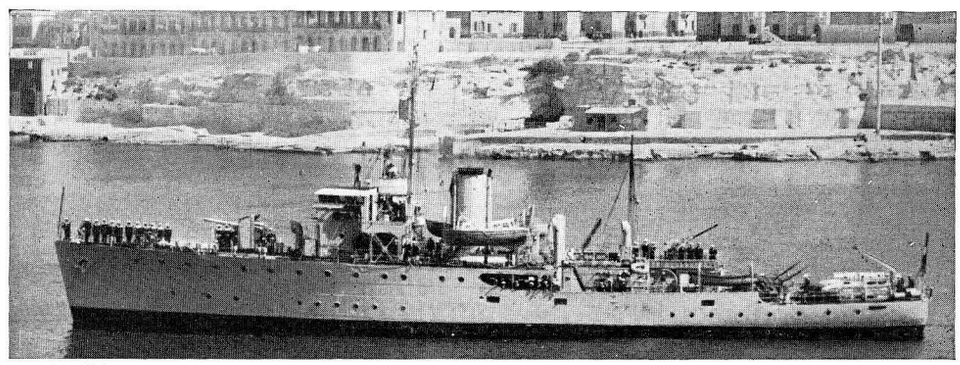
Notes
Former American steel hulled fleet minesweepers of the "Auk" type. Transferred to Great Britain while still under construction. Served in the Royal Navy. Retransferred to Turkey in Apr. 1947. Built by Associated Shipbuilders, Cleveland (*Çarsanba, Çesme* and *Edincik*); General Engineering & D D. Co., Alameda (*Çandarli* and *Erdemli*) and Gulf Shipbuilding Corporation, Houston (*Çardak, Edremit* and *Eregli*). Launch dates above. Named after Turkish ports.

Ex-Australian "Bathurst" Type
5 "Alanya" Class

ALANYA (*ex-Broome*)
AMASRA (*ex-Pirie*)
ANTALYA (*ex-Geraldton*)
AYANCIK (*ex-Launceston*
AYVALIK (*ex-Gawler*)

Displacement:	790 tons *standard* (1,025 tons *full load*)
Dimensions:	162 (*pp.*), 186 (*o.a.*) × 31 × 8½ feet
Guns:	1—4 inch, 1—40 mm., 4—20 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,800=15·5 kts.
Oil fuel:	170 tons
Radius:	4,500 miles at 10 kts.
Complement:	85

Name	*Builders*	*Launched*
Alanya	Evans Deakin, Brisbane	6 Oct. 1941
Amasra	Broken Hill, Whyalla	Dec. 1941
Antalya	Poole & Steel, Sydney	16 Aug. 1941
Ayancik	Evans Deakin, Brisbane	30 June 1941
Ayvalik	Broken Hill, Whyalla	Oct. 1941



ALANYA — 1951, *A. & J. Pavia*

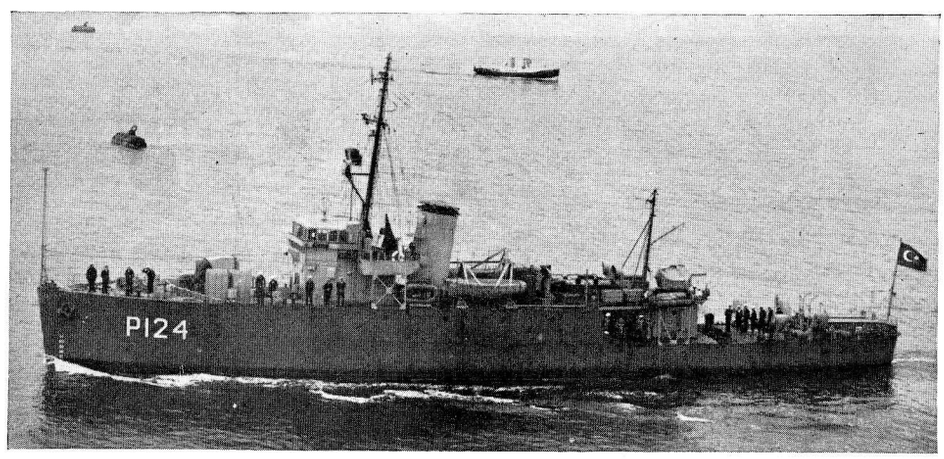
Notes
All Australian built, 1940-42. Served in the Royal Navy. Acquired from Great Britain in Aug. 1946. Named after Turkish ports. Taller mainmast in *Ayancik* and *Ayvalik*.

COASTAL ESCORTS (*ex*-Fleet-Minesweepers)

Ex-Canadian "Bangor" Type
10 "Bafra" Class

BAFRA (ex-H.M.C.S. *Nipigon, FSE* 188)
BANDIRMA (ex-H.M.C.S. *Kenora, FSE* 191)
BARTIN (ex-H.M.C.S. *Kentville, FSE* 182)
BEYKOZ (ex-H.M.C.S. *Blairmore, FSE* 193)
BEYLERBEYI (ex-H.M.C.S. *Mahone, FSE* 192)
BIGA (ex-H.M.C.S. *Medicine Hat, FSE* 197)
BODRUM (ex-H.M.C.S. *Fort William, FSE* 195)
BORNOVA (ex-H.M.C.S. *Westmount, FSE* 187)
BOZCAADA (ex-H.M.C.S. *Swift Current, FSE* 185)
BUYUKDERE (ex-H.M.C.S. *Sarnia, FSE* 190)

Displacement:	672 tons *standard* (900 tons *full load*)
Dimensions:	171½ (*pp.*), 180 (*o.a.*) × 28½ × 12½ (*max.*) feet
Guns:	1—40 mm. AA., 2—20 mm. AA., 4 M.G.
A/S weapons:	1 Hedgehog, 4 D.C T.
Machinery:	Triple expansion. 2 shafts. I.H.P. 2,400=16·5 kts.
Boilers:	2 Admiralty 3-drum type
Complement:	70



BIGA (showing Nato No.) — 1959, *A. & J. Pavia*

Notes
Former Canadian fleet minesweepers, redesignated coastal escorts in 1953, and transferred to the Turkish Navy at the end of 1957. *Bafra, Bandirma, Bartin, Biga* and *Bodrum* were actually transferred on 29 Nov. 1957 at Point Edward Naval Base, Sydney, Nova Scotia. *Beykoz, Beylerbeyi, Bornova, Bozcaada* and *Buyukdere* were turned over from Canada to Turkey early in 1958. All sailed from Sydney, N.S. to Turkey on 19 May 1958.

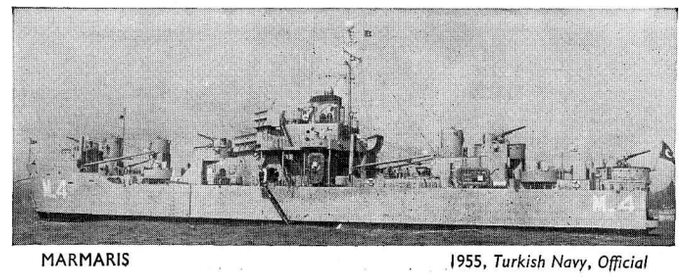
No.	*Name*	*Launched*	*No.*	*Name*	*Launched*	*No.*	*Name*	*Launched*
P 121	*Bafra*	30 Sep. 1940	P 122	*Beykoz*	14 May 1942	P 125	*Bodrum*	30 Dec. 1941
P 129	*Bandirma*	20 Dec. 1941	P 123	*Beylerbeyi*	15 Nov. 1940	P 126	*Bornova*	14 Mar. 1942
P 130	*Bartin*	18 Apr. 1942	P 124	*Biga*	24 June 1941	P 127	*Bozcaada*	29 May 1941
						P 128	*Buyukdere*	21 Jan. 1942

MINELAYERS

3 Ex-U.S. LSM Type

MORDOGAN (*ex-LSM* 484) **MARMARIS** (*ex-LSM* 481) **MERIÇ** (*ex-LSM* 490)

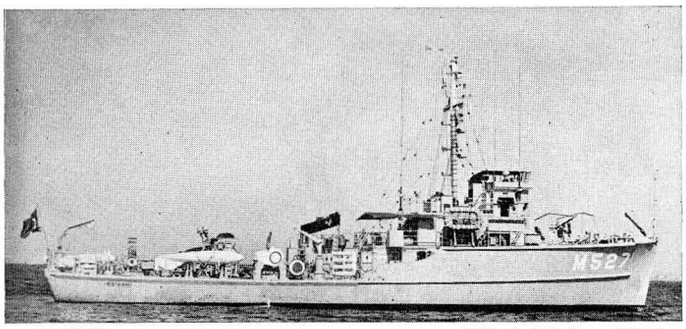
Displacement:	743 tons *standard* (1,100 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,880=12 kts.
Oil fuel:	60 tons
Radius:	2,500 miles at 10 kts.
Complement:	70



MARMARIS — 1955, *Turkish Navy, Official*

Notes
Ex-U.S. LSMs., Landing Ships Medium. All three vessels were launched in 1945, converted into minelayers by the U.S. Navy in 1952 and taken over by the Turkish Navy in Oct. 1952 under the Mutual Defense Assistance Program. Nato Pennant Nos. N 101, N 100 and N 102, respectively.

COASTAL MINESWEEPERS



SAMSUN 1959, *Turkish Navy, Official*

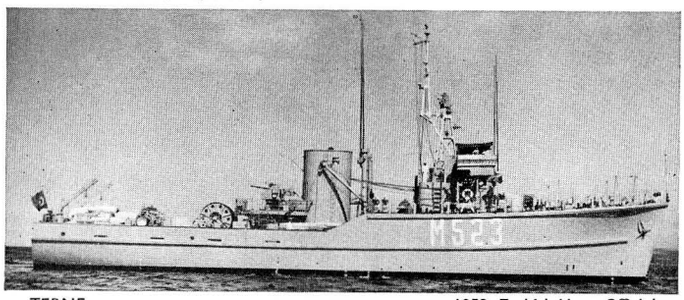
4 Ex-U.S. MSC Type. "Bluebird" Class

SAM SUN M 257 (ex-U.S.S. *MSC* 268) **SINOP** M 258 (ex-U.S.S. *MSC* 270)
SEDDUL BAHIR M 260 (ex-U.S.S. *MSC* 272) **SURMENE** M 259 (exU.S.S. *MSC* 271)

Displacement:	320 tons *standard* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*) × 28 × 9 feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	38 (4 officers, 34 men)

Notes

Former United States coastal minesweepers of the MSC type or "Bluebird" class constructed of wood and non-magnetic materials. Transferred to Turkey under the Mutual Defense Assistance Program at Seattle, Washington, on 30 Sep. 1958, 9 July 1959, 30 Jan. 1959 and 27 Mar. 1959, respectively.



TERNE 1959, *Turkish Navy, Official*

4 Ex-Canadian MCB Type. "Gaspe" Class

TIREBOLU M 524 (ex-H.M.C.S. *Comox*) **TERME** M 523 (ex-H.M.C.S. *Trinity*)
TEKIRDAG M 525 (ex-H.M.C.S. *Ungava*) **TRABZON** M 522 (ex-H.M.C.S. *Gaspe*)

Displacement:	390 tons *standard* (412 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 7⅔ feet
Guns:	1—40 mm.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,400=16 kts.
Oil fuel:	52 tons
Radius:	4,500 miles at 11 kts.
Complement:	40

Notes

Former Canadian coastal minesweepers transferred to the Turkish Navy under Mutual Aid arrangements in1958. Sailed from Sydney, N.S. to Turkey on 19 May, 1958.



KAS 1959, *Turkish Navy, Official*



KILIMLI (only one like this) 1948, *U.S. Navy, Official*

8 Ex-U.S. YMS Type. "K" Class

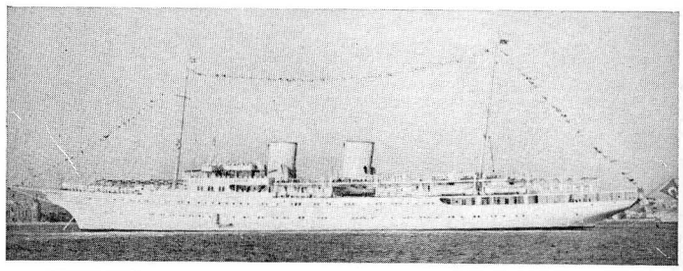
KARAMURSEL (ex-*Kulluk*, ex-*YMS* 348) Feb. '43 **KILIMLI** (ex-*YMS* 289) 26 Jan. 1943
KAS (ex-*YMS* 79) 27 Dec. 1941 **KIRTE** (ex-*YMS* 307) 31 Dec. 1943
KEMER (ex-*YMS* 228) 2 Oct. 1942 **KOZLU** (ex-*YMS* 375) 27 Feb. 1943
KEREMPE (ex-*YMS* 239) 27 Oct. 1942 **KUSADASI** (ex-*YMS* 468) 23 Mar. 1944

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 × 24 × 6 feet
Guns:	1—3 inch, 2—20 mm. AA.
Machinery:	2 G.M. diesels. B.H.P.: 1,000=15 kts.(*max.*), 11 kts. (*normal*)
Oil fuel:	16 tons
Radius:	1,500 miles at 9 kts.
Complement:	20

Notes

Former American YMS type coastal minesweepers of wooden construction. Launch dates above. Acquired from the U.S.Navy in 1947. All have one funnel except *Kilimli*, which has two. Nos. M 516, 517, 520, 519, 518, 521, 513, 514, respectively.

TRAINING SHIP



SAVARONA 1959, *Turkish Navy, Official*

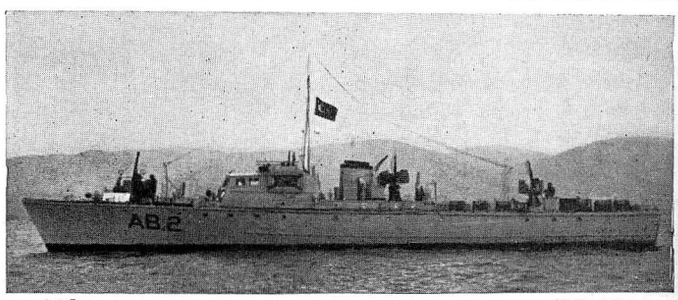
SAVARONA

Displacement:	5,710 tons
Dimensions:	349½ (*w.l.*), 408½ (*o.a.*) × 53 × 20½ (*mean*) feet
Guns:	4—3 inch, 2—40 mm. AA., 2—20 mm. AA.
Machinery:	6 geared turbines 2 shafts. S.H.P.: 10,750=21 kts. (about 18 kts. now)
Boilers:	4 watertube, 400 lb. working pressure
Oil fuel:	2,100 tons
Radius:	9,000 miles at 15 kts.
Complement:	132+81 midshipmen

Notes

Built by Blohm & Voss, Hamburg. Launched on 28 Feb. 1931. Formerly probably the most sumptuously fitted yacht afloat. Equipment includes Sperry gyro-stabilisers. Reconstructed and converted into a training ship for midshipmen in 1952, the saloons and dining rooms being adapted as classrooms, workshops and libraries for 120 midshipmen.

MOTOR LAUNCHES



AB 2 1948, *Official*

8 Ex-British ML Type

AB 1 (*ex-ML* 386) **AB 4** (*ex-ML* 837) **AB 7** (*ex-ML* 862)
AB 2 (*ex-ML* 584) **AB 5** (*ex-ML* 838) **AB 8** (*ex-ML* 863)
AB 3 (*ex-ML* 836) **AB 6** (*ex-ML* 842)

Displacement:	85 tons *standard* (115 tons *full load*)
Dimensions:	112 × 17¾ × 4 feet
Guns:	1—3 pdr., 2—20 mm. AA , 4 M.G.
Machinery:	2 Hall-Scott engines. B.H.P.: 1,120=21 kts.
Oil fuel:	12 tons
Complement:	18

Notes

Former British motor launches of the Fairmile B type. Launched in 1940-42. Transferred to Turkey in 1947.

4 Ex-U.S. Type

LS 9 **LS 10** **LS 11** **LS 12**

Displacement:	63 tons
Dimensions:	83 × 14 × 5 feet
Guns:	1—20 mm. AA.
Machinery:	2 Cummins. B.H.P.: 1,100

Notes

Motor launches of American construction, transferred on 25 June 1953.

Recent Disposals

It is officially stated that the eight ex-British motor launches of the HDML type, *LS* 1, *LS* 2, *LS* 3, *LS* 4, *LS* 5, *LS* 6, *LS* 7 and *LS* 8, were scrapped in 1959.

8 Utility Type

MTB 2 **MTB 4** **MTB 6** **MTB 8**
MTB 3 **MTB 5** **MTB 7** **MTB 9**

Displacement:	70 tons
Dimensions:	71½ × 13¾ × 8½ (*max.*) feet
Machinery:	Diesel. B.H.P.: 2,000=10 kts.
Complement:	8

Notes

All launched in 1942. General purpose craft. Photograph of MTB 9 in the 1957-58 edition.

SUBMARINE RESCUE SHIP

Ex-U.S. ASR Type

KURTARAN (ex-*Bluebird*, ex-*Yurok*)

Displacement:	1,294 tons *standard* (1,675 tons *full load*)
Dimensions:	205 (*o.a.*) × 38½ × 12 feet
Guns:	1—3 inch, 2—40 mm. AA.
Machinery:	Diesel-electric. B.H.P.: 3,000=16 kts.
Complement:	85

Notes

Built by Charleston S. B. & D. D. Co. Launched in 1946. Former salvage tug, adapted as a submarine rescue vessel in 1947. Transferred from the United States Navy on 15 Aug. 1950, under the Mutual Defense Assistance Program. Pennant No. A 67. Photograph in the 1957-58 edition.

COASTAL MINELAYERS

1 Ex-U.S. YMP Type

MEHMEDCIK (ex-U.S.S. *YMP* 3)

Displacement:	540 tons *full load*
Dimensions:	130 × 35 × 6 feet
Machinery:	Diesels. 2 shafts. Speed=10 kts
Complement:	22

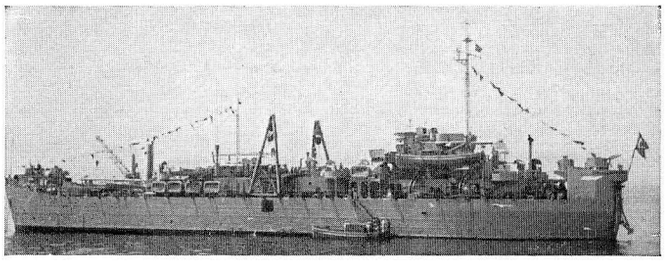
Notes
Former United States motor mine planter. Built by Higgins Inc., New Orleans, La. Completed in 1958. Steel hulled. Transfered to Turkey under the Mutual Defense Assistance Program in 1958. For harbour defence use.

Recent Disposals
It is officially stated that the German built minelayer *Nusret* and the British built minelayer *Uyanik* were discarded in 1957; and the Turkish built minelayer *Atak* was removed from the effective list in 1958. The British built minelayers *Sivrihisar* and *Yüzbasi Hakki* were officially disqualified as obsolete in 1960.

The ex-British motor minesweepers *Bartin* (ex-*MMS* 88) and *Çanak* (ex-*MMS* 1) were scrapped in 1958, it is officially stated.

It is officially stated that the submarine depot ship *Erkin* (former German liner *Trier*) was discarded in 1957.

REPAIR SHIPS



ONARAN — 1953, *Mr. A. Cemaleddin Saracoglu*

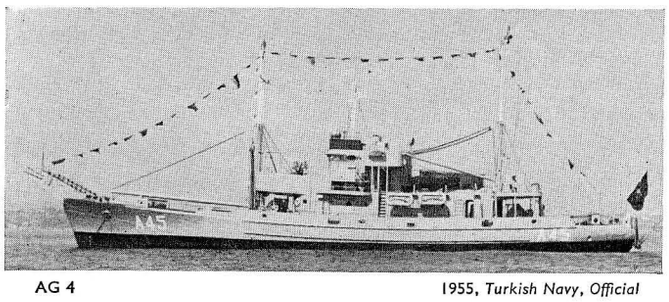
2 Ex-U.S. LST Type

BASARAN (ex-*Patroclus*, *ARL* 19, ex-*LST* 955) **ONARAN** (ex-*Alecto*, *AGP* 14, ex-*LST* 558)

Displacement:	1,625 tons *standard* (3,960 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	2—40 mm. AA., 8—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.:1,700=11 kts.
Oil fuel:	1,000 tons
Radius:	6,000 miles at 9 kts.

Notes
Former American repair ship and MTB tender, respectively, of the LST type. *Basaran* was launched on 22 Oct. 1944 by Bethlehem Hingham Shipyard. *Onaran* was launched on 14 Apr. 1944 by Missouri Valley Bridge & Iron Co. Acquired from United States Navy in 1952 and 1947, respectively.

BOOM DEFENCE VESSELS



AG 4 — 1955, *Turkish Navy, Official*

1 Ex-U.S AN Type

AG 4 (ex-*Larch*, ex-*AN* 21)

Displacement:	560 tons *standard* (805 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 10½ feet
Guns:	1—3 inch AA
Machinery:	Diesel-Electric. B.H.P.: 800=12 kts.
Complement:	48

Notes
Former American netlayer of the "Aloe" class. Built by American S. B. Co., Cleveland. Laid down in 1940. Launched on 2 July, 1941. Completed in 1941. Acquired from United States Navy in 1947. Pennant No. A 45.

3 Ex-British "Bar" Class

AG 1 (ex-*Barbarian*, 21 Oct. 1937) **AG 3** (ex-*Barfair*, 21 May 1938)
AG 2 (ex-*Barbette*, 15 Dec. 1937)

Displacement:	750 tons *standard* (1,000 tons *full load*)
Dimensions:	150 (*pp.*), 173¾ (*o.a.*) × 32¼ × 9½ feet
Guns:	1—3 inch AA.
Machinery:	Triple expansion. I.H.P.: 850=11·5 kts
Boilers:	2 S.E.
Complement:	32

Notes
Former British boom defence vessels of the "Bar" type. First two built by Blyth S.B. Co., third by J. Lewis & Sons. Launch dates above. Photograph in the 1957-58 edition.

SUBMARINE TENDERS

ISIN (ex-*Imia Layteri*)

Displacement:	390 tons *full load*
Dimensions:	110 × 24 × 7 feet
Guns:	1 M.G.
Machinery:	Crossley diesel. B.H.P.: 330
Oil fuel:	32 tons

Notes
Built by James Pollock, Sons & Co., Faversham. Launched in 1941. A coaster type vessel employed in charging the batteries of submarines. Photograph in the 1957-58 and earlier editions.

DALGIÇ (1939)

Notes
Small motor vessel formerly attached to the Submarine Depot Ship *Erkin* as a tender.

DEEP SEA DIVING TENDER

AKIN (ex-*Rasit*, ex-*Cow-Whale*)

Displacement:	336 tons
Dimensions:	139¾ × 25 × 6½ feet
Machinery:	Triple expansion. I.H.P.: 1,000=12 kts.
Coal:	60 tons
Complement:	26

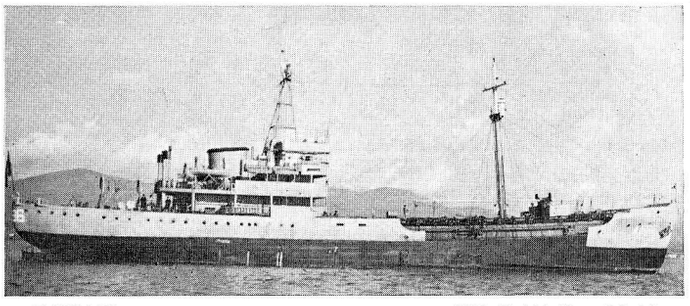
Notes
Built by Smith's Dock Co. Ltd., South Bank-on-Tees. Launched in 1915. Ex-British Admiralty whaler, purchased in 1926. Fitted with deep-sea diving apparatus with which a depth of 115 fathoms has been reached.

PRESIDENTIAL YACHT

UMUR

Notes
Completed and commissioned for service in 1956.

OILERS

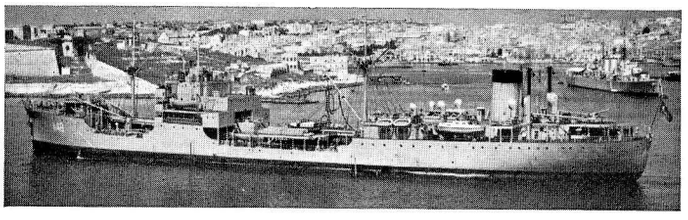


TULUNAY — 1959, *Turkish Navy, Official*

YÜSBAŞI TULÜNAY

Displacement:	2,500 tons *standard* (3,500 tons *full load*)
Dimensions:	260 × 41 × 19½ feet
Machinery:	Atlas Polar-diesels. 2 shafts. B.H.P.: 1,920=14 kts.

Notes
Built at Taskizak by Hasoy Naval D. Y[illegible] Istanbul. Launched on 22 Aug. 1950. Pennant No. A 586.



AKAR — 1959, *A. & J. Pavia*

AKAR (ex-*Istanvul*, ex-*Adour*)

Displacement:	4,289 tons *light* (13,200 tons *full load*)
Dimensions:	433 × 52¾ × 27 feet
Machinery:	Parsons geared turbines. S.H.P.: 5,200=15 kts.

Notes
Pennant No. A 48. NATO Pennant No. A 580. Starboard bow oblique photograph in the 1958-59 and earlier editions.

AKPINAR (ex-*Chiwaukum*)

Displacement:	700 tons *standard* (2,700 tons *full load*)
Measurement:	1,453 tons *deadweight*
Dimensions:	212½ (*w.l.*), 220½ (*o.a.*) × 37 × 12¾ feet
Machinery:	Diesel. B.H.P.: 800=10 kts.

Notes
Formerly the United States oiler *AOG* 26. Built by East Coast S. Y. Inc., Bayonne. Laid down on 2 Apr. 1944. Launched on 5 May 1944. Completed on 22 July 1944. Transferred to Turkey in 1949. Photograph in the 1957-58 edition.

GÖLCÜK

Displacement:	1,255 tons
Measurement:	750 tons *deadweight*
Dimensions:	185 × 31½ × 10 feet
Machinery:	B. & W. diesel. B.H.P.: 700=12·5 kts

Notes
Built by Gölcük Dockyard, Ismit. Launched on 4 Nov. 1935. Photograph in the 1957-58 and earlier editions.

Recent Disposal
It was officially stated in 1960 that the collier *Ülkü* (ex-*Shandon*) has been disqualified as obsolete.

URUGUAY

Administration

Inspector General of the Navy:
Rear-Admiral Eduardo Beraldo.

Personnel

1960: 170 officers and 1,300 ratings.

Mercantile Marine

Lloyd's Register of Shipping:
40 vessels of 75,726 tons *gross*.

FRIGATES

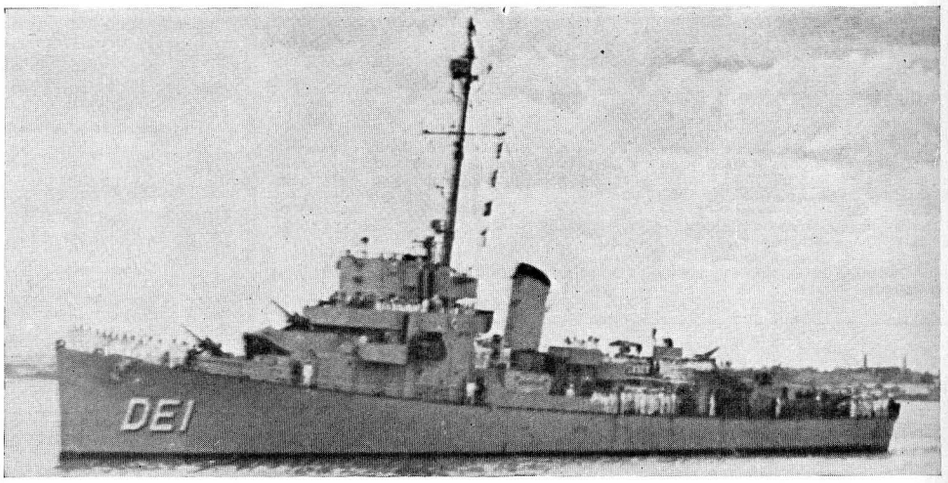
2 Ex-U.S. Destroyer Escort Type (Escort Vessels, DE)

ARTIGAS (ex-U.S.S. *Bronstein*, *DE* 189)
URUGUAY (ex-U.S.S. *Baron*, *DE* 166)

Name:	*Artigas*	*Uruguay*
Pennant No.:	*DE* 2	*DE* 1
Builders:	Federal S.B. & D.D. Co., Port Newark	Federal S.B. & D.D. Co., Port Newark
Launched:	14 Nov. 1943	9 May 1943
Completed:	13 Dec. 1943	5 July 1943

Displacement: 1,240 tons *standard* (1,900 tons *full load*)
Dimensions: 306 (*o.a.*) × 36⅜ × 14 (*max.*) feet
Guns: 3—3 inch, 2—40 mm. AA., 10—20 mm. AA.
Tubes: 3—21 inch (triple)
A/S weapons: Hedgehog. 8 D.C.T.
Machinery: Diesel-electric. 2 shafts. B.H.P.: 6,000=21 kts.
Oil fuel: 300 tons
Radius: 11,500 miles at 11 kts.
Complement: 187

Notes
Former United States destroyer escorts of the "Bostwick" class, transferred to Uruguay in 1951. *Artigas* has a mainmast (photograph in the 1953-54 to 1957-58 editions).



URUGUAY — 1957, *Uruguayan Navy, Official*

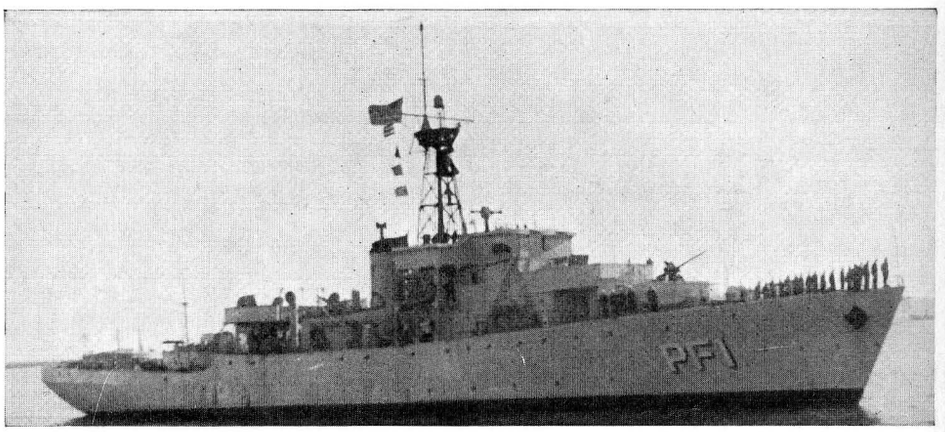
Ex-British Corvette Type Training Ship (*Buque Escuela*)

MONTEVIDEO (ex-H.M.C.S. *Arnprior*, ex-H.M.S. *Rising Castle*)

Pennant No.:	PF 1
Builders:	Harland & Wolff, Ltd., Belfast
Laid down:	21 June 1943
Launched:	8 Feb. 1944
Completed:	26 June 1944

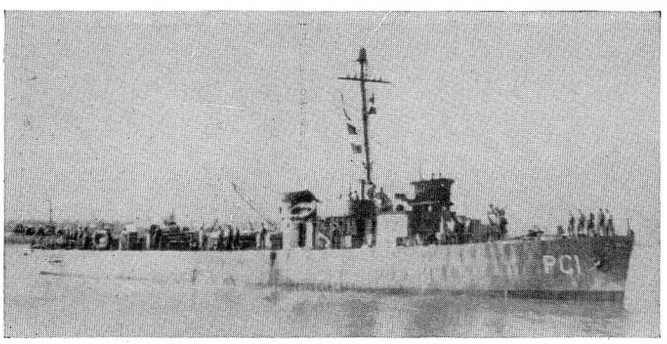
Displacement: 1,010 tons *standard* (1,600 tons *full load*)
Dimensions: 251⅜ × 36⅜ × 17½ (*max.*) feet
Guns: 1—3 inch, 2—40 mm. AA., 4—20 mm. AA.
A/S weapons: Hedgehog. 2 D.C.T.
Machinery: Triple expansion. 190 r.p.m. I.H.P.: 2,750=17 kts.
Boilers: 2 water tube, oil fired
Oil fuel: 320 tons (*normal*), 480 tons (*max.*)
Radius: 9,500 miles at 10 kts.
Complement: 90

Notes
Former British and Canadian "Castle" class corvette (frigate). Employed as a training ship.



MONTEVIDEO — 1956, *Uruguayan Navy, Official*

PATROL VESSELS



MALDONADO — 1957, *Uruguayan Navy, Official*

1 Ex-U.S. PC Type

MALDONADO (ex-*PC* 1234)

Displacement: 280 tons *standard* (450 tons *full load*)
Dimensions: 165 (*pp.*), 170 (*w.l.*), 173⅜ (*o.a.*) × 23 × 10⅝ (*max.*) feet
Guns: 1—3 inch d.p., 1—40 mm., 3—20 mm.
A/S weapons: 1 M.T., 4 D.C.T.
Machinery: 2 sets G.M. 2-stroke Diesels. 2 shafts. B.H.P.: 3,750=22 kts.
Complement: 65

Notes
Former submarine chaser. Built in New York. Launched on 3 Apr. 1943. Transferred from U.S. Navy in 1944. Pennant No. PC 1 (ex-B 1).

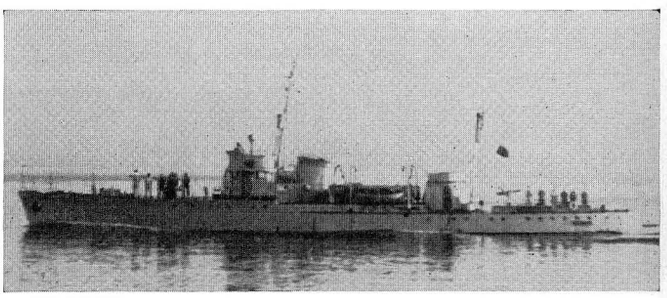
RESCUE MOTOR LAUNCH

(*Lancha de Rescate*)

AR 1

Displacement: 25 tons
Dimensions: 63 × 15 × 3⅝ feet
Guns: 4 M.G.
Machinery: 2 sets Hall Scott "Defender" engines. B.H.P.: 1,260=33·5 kts.
Radius: 600 miles at 15 kts.
Complement: 8

Notes
British type rescue motor launch. Launched on 4 July 1944. Photograph in the 1953-54 to 1957-58 editions.



RIO NEGRO — 1957, *Uruguayan Navy, Official*

3 "Paysandu" Class

PAYSANDU (21 July 1935) **RIO NEGRO** (22 Aug 1935) **SALTO** (11 Aug. 1935)

Displacement: 150 tons *standard* (180 tons *full load*)
Dimensions: 137½ × 19 × 5½ feet
Guns: *Paysandu*: 2—20 mm., 1—37 mm. AA.
Rio Negro: 1—47 mm. 1 M.G.
Salto: 2—20 mm., 1 M.G.
Machinery: 2 sets Germania Diesels. B.H.P.: 1,000=17 kts.
Oil fuel: 18 tons
Radius: 4,000 miles at 10 kts.
Complement: 26

Notes
Employed as training ships. Pennant numbers PR1, PR3, PR2, respectively, substituted for A pennant Nos. in 1956. Built by Cantieri Navali Riuniti, Ancona, Italy. Launch dates above.

SURVEYING VESSEL

CAPITAN MIRANDA

Displacement: 516 tons
Dimensions: 148 (*pp.*), 167 (*o.a.*) × 28 × 10 feet
Machinery: 1 M.A.N. Diesel. B.H.P.: 500=10·5 kts.
Oil fuel: 45 tons
Complement: 52

Notes
Built by Sociedad Espanola de Construccion Naval, Matagorda, Cadiz. Launched in 1930. Photograph in the 1932 to 1957-58 editions.

UNITED STATES NAVY

Administration and Command

Commander-in-Chief:
President of the United States
Secretary of the Navy:
Mr. William B. Franke.
Under Secretary of the Navy:
Mr. Fred A. Bantz.
(There are now 3 Assistant Secretaries of the Navy.)
Chief of Naval Operations:
Admiral Arleigh A. Burke, U.S.N.
Vice-Chief of Naval Operations:
Admiral James S. Russell, U.S.N.
(There are now 3 Assistant C.N.O.s and 6 Deputy C.N.O.s)
Commander-in-Chief, U.S. Atlantic Fleet:
Admiral Robert L. Dennison, U.S.N.
Commander-in-Chief, U.S. Pacific Fleet:
Admiral John H. Sides, U.S.N.
Naval Attaché and Naval Attaché for Air, London:
Rear-Admiral Noel A.M. Gayler, U.S.N.

Strength of United States Fleet

9	heavy aircraft carriers.	274	destroyer escorts.
24	large aircraft carriers.	66	destroyer escort transports.
5	light aircraft carriers.	17	nuclear submarines.
20	escort aircraft carriers.	157	submarines.
8	battleships.	20	escorts.
20	heavy cruisers.	257	mine craft.
27	light cruisers.	42	patrol vessels.
13	frigates (destroyer leaders).	402	amphibious craft.
362	destroyers.	728	fleet auxiliaries.
10	destroyer minelayers.	1,539	service craft.

Total: 4,000.
Active: 817 on 30 June 1960 (warships, support ships and training ships).

Ships

All modern aircraft carriers, battleships, cruisers, etc., have bows of bulbous form. This has been found advantageous when ships are being pressed to their utmost speeds. In large cruisers the effect is only felt at about 29 knots and over.

All warships from destroyers up to aircraft carriers will have twin 3 inch, 50 cal. automatic mountings replacing quadruple 40 mm. AA. guns. This change will take some time to effect in all ships. 20 mm. AA. mountings have been removed from all active aircraft carriers, cruisers and destroyers.

All ships are painted light grey overall, except submarines, most of which are painted black, with large serial numbers on the bows, except aircraft carriers.

Aircraft carriers are differentiated by their serial numbers painted on the funnels and identified from the air by the same figures painted prominently on the flight deck forward and aft.

Submarines carry numbers on their conning towers and also on their bows.

Personnel

Navy: 641,000 (actual) officers and enlisted men on 30 June 1958; 630,000 (planned) on 30 June 1959; 630,000 (proposed) on 30 June 1960; 619,000 in Fiscal Year 1961.

Marine Corps: 189,000 (actual) officers and enlisted men on 30 June 1958; 175,000 (planned) on 30 June 1959; 175,000 (proposed) on 30 June 1960.

Nomenclature

Aircraft carriers are named mostly after historical naval vessels or battles; battleships after States; heavy cruisers and light cruisers after large cities; destroyer leaders (frigates) after Admirals; destroyers after officers and enlisted men of the Navy and Marine Corps, Secretaries of the Navy, Members of Congress and inventors.

Destroyer escorts and destroyer escort transports are named after Navy men, Marines, or Coast Guard personnel killed in action during the Second World War.

Submarines are named after fish and marine creatures (ballistic missile submarines after men famous in American history); ocean minesweepers and fleet minesweepers after abstract qualities, etc., and birds; escorts and submarine chasers after small cities and towns.

Submarine tenders are named after pioneers in submarine development and mythological characters; destroyer tenders after geographical features and natural areas of the United States, e.g., mountain ranges, valleys, etc.; repair ships after mythological characters.

Large seaplane tenders and escort carriers are named after sounds and bays; ammunition ships after volcanoes and ingredients of explosives; transports after flag and general officers, Commandants of the Marine Corps and Marine Corps officers; attack transports and attack cargo ships after counties; coastal minesweepers after birds; inshore minesweepers after seaboard features.

Tank landing ships are named after counties; and medium landing ships, rocket, after rivers.

Small seaplane tenders are named after bays, straits and inlets; submarine rescue vessels after birds; oilers after rivers with Indian names; ocean-going tugs after Indian tribes; and harbour tugs after Indian Chiefs and words of the Indian dialect.

Occasional exceptions to this system will be found.

Ships' names are prefaced by "U.S.S." (United States Ship) or "U.S.N.S." (U.S. Naval Ship—non-commissioned ships of the Military Sea Transportation Service).

Future Naval Programme

It is intended that in 1960-70 there will be:
150 ships with nuclear powered machinery plants;
200 ships armed with surface to air guided missiles;
All combatant ships armed with anti-submarine missiles or equipped with anti-submarine aircraft.

By 1967 it is planned that there will be:
A fleet of 75 nuclear powered submarines.
The U.S. Navy proposes to raise its Polaris ballistic missile submarine fleet to about 45 SSBNs (revised upwards from 40 in 1960).

1960-61 New Construction Programme

1 Attack Aircraft Carrier, CVA.
3 Guided Missile Frigates, DLG.
2 Guided Missile Destroyers, DDG.
5 Nuclear Powered Fleet Ballistic Missile Submarines, SSBN.
4 Nuclear Powered Fleet Anti-Submarine Warfare Submarines, SSN.
2 Escort Vessels, DE.
1 Amphibious Transport, Dock, LPD.
2 Fast Combat Support Ships, AOE.
1 Combat Store Ship, AFS.
1 Oceanographic Research Ship, AGOR.
1 Auxiliary Deep Diving Submarine, AGSS.
1 Escort Research Ship, AG.

1960-61 Conversion Programme

14 Destroyers, DD (Mark 1 Fleet Rehabilitation and Modernisation).
1 Auxiliary (Fast Experimental) Submarine, AGSS.

1959-60 New Construction Programme

3 Guided Missile Destroyers, DDG.
4 Nuclear Powered Attack Submarines, SSN.
1 Amphibious Transport, Dock, LPD
1 Amphibious Assault Ship, LPH.
2 Escort Vessels, DE (" Dealey " Class).
1 Submarine Chaser PC(H) Hydrofoil.
1 Oceanographic Research Ship, AGOR.
1 Submarine Tender, AS.

1959-60 Conversion Programme

8 Destroyers, DD—the eight Mark 1 destroyers of the FRAM (Fleet Rehabilitation and Modernisation) Programme.
1 Minesweeper, Special, MSS.
1 Technical Research Ship, AG.
1 Missile Range Instrumentation Ship, AG.
1 Advanced Aviation Base Ship, AVB.

1958-59 New Construction Programme

1 Nuclear Powered Guided Missile Frigate, DLGN.
6 Guided Missile Frigates, DLG.
5 Guided Missile Destroyers, DDG.
6 Nuclear Powered Fleet Ballistic Missile Submarines, SSBN.
5 Nuclear Powered Attack Submarines, SSN.
1 Amphibious Assault Ship, LPH.
1 Amphibious Transport Dock, LPD.

1958-59 Conversion Programme

2 Guided Missile Cruisers, CG.
1 Nuclear Powered Submarine, SSN.
1 Auxiliary Submarine, AGSS.
1 Attack Transport, APA.

1957-58 Supplemental New Construction Programme

5 Nuclear Powered Guided Missile Submarines for carrying the POLARIS Missile. (3 in 1st Supplemental Appropriation, Feb. 1958; 2 in 2nd Supplemental Appropriation, Apr. 1958.)

1957-58 New Construction Programme

1 Nuclear Powered Attack Aircraft Carrier.
1 Helicopter Escort Aircraft Carrier (Amphibious Assault Ship).
7 Guided Missile Frigates.
5 Guided Missile Destroyers.
3 Nuclear Powered Guided Missile Submarines.
1 Nuclear Powered Attack Submarine.

Naval Appropriations

1950: $ 4,105,000,000	1954: $ 9,348,000,000	1958: $10,696,000,000
1951: $12,503,000,000	1955: $ 9,766,000,000	1959: $11,958,000,000
1952: $16,118,000,000	1956: $ 9,648,000,000	1960: $11,326,000,000
1953: $12,555,000,000	1957: $10,478,000,000	1961: $12,276,411,000

Mercantile Marine

Lloyd's Register of Shipping:
Sea, 3,765 vessels of 22,763,462 tons, *gross*.
Great Lakes, 431 vessels of 2,524,510 tons *gross*.
Total: 4,196 vessels of 25,287,972 tons *gross*.

UNITED STATES NAVY SERIAL NUMBERS

CVA(N)—Nuclear Powered Attack Aircraft Carrier

65 Enterprise

CVA—Attack Aircraft Carriers

11 Intrepid
14 Ticonderoga
16 Lexington
19 Hancock
31 Bon Homme Richard
34 Oriskany
38 Shangri-La
41 Midway
42 Franklin D. Roosevelt
43 Coral Sea
59 Forrestal
60 Saratoga
61 Ranger
62 Independence
63 Kitty Hawk
64 Constellation

CVS—Support Aircraft Carriers

9 Essex
10 Yorktown
12 Hornet
15 Randolph
18 Wasp
20 Bennington
33 Kearsarge
36 Antietam
39 Lake Champlain
40 Tarawa
45 Valley Forge

CVU Utility Aircraft Carriers

64 Tripoli
88 Cape Esperance
92 Windham Bay

LPH—Amphibious Assault Ships

2 Iwo Jima
3 Okinawa
4 Boxer (ex-CVS 21)
5 Princeton (ex-CVS 37)
6 Thetis Bay (ex-CVHA 1, ex-CVE 90)

AVT—Auxiliary Aircraft Transports

2 Monterey (ex-CVL 26)
3 Cabot (ex-CVL 28)
5 San Jacinto (ex-CVL 30)
6 Saipan (ex-CVL 48)
7 Wright (ex-CVL 49)
8 Franklin (ex-CVS 13)
9 Bunker Hill (ex-CVS 17)
10 Leyte (ex-CVS 32)
11 Philippine Sea (ex-CVS 47

AKV—Aircraft Ferry and Cargo Ships

8 Kula Gulf (ex-CVE 108)
9 Cape Gloucester (ex-CVHE 109)
10 Salerno Bay (ex-CVE 110)
12 Siboney (ex-CVE 112)
14 Rendova (ex-CVE 114)
16 Badoeing Strait (ex-CVE 116)
17 Saidor (ex-CVHE 117)
18 Sicily (ex-CVE 118)
19 Point Cruz (ex-CVE 119)
21 Raboul (ex-CVHE 121)
23 Tinian (ex-CVHE 123)
37 Commencement Bay (ex-CVHE 105)
39 Gilbert Islands (ex-CVE 107)
40 Card (ex-CVU 11, ex-CVHE 11)
41 Core (ex-CVU 13, ex-CVHE 13)
42 Breton (ex-CVU 23, ex-CVHE 23)
43 Croatan (ex-CVU 25, ex-CVHE 25)

BB—Battleships

57 South Dakota
58 Indiana
59 Massachusetts
60 Alabama
61 Iowa
62 New Jersey
63 Missouri
64 Wisconsin

CG(N)—Nuclear Powered Guided Missile Cruiser

9 Long Beach

CG—Guided Missile Cruisers

10 Albany
11 Chicago
12 Columbus

CA—Heavy Cruisers

68 Baltimore
71 Quincy
72 Pittsburgh
73 St. Paul
75 Helena
122 Oregon City
124 Rochester
130 Bremerton
131 Fall River
132 Macon
133 Toledo
134 Des Moines
135 Los Angeles
139 Salem
148 Newport News

CAG—Guided Missile Heavy Cruisers

Boston
2 Canberra

CL—Light Cruisers

64 Vincennes
65 Pasadena
80 Biloxi
86 Vicksburg
89 Miami
90 Astoria
101 Amsterdam
102 Portsmouth
103 Wilkes Barre
104 Atlanta
105 Dayton
106 Fargo
107 Huntington
144 Worcester
145 Roanoke

CLC—Tactical Command Ship

1 Northampton (ex-CA 125)

CLG—Guided Missile Light Cruisers

3 Galveston
4 Oklahoma City
5 Little Rock
6 Providence
7 Springfield
8 Topeka

CLAA—Anti-Aircraft Light Cruisers

97 Flint
98 Tucson
120 Spokane
121 Fresno

DLGN—Nuclear Powered Guided Missile Destroyer Leader (Frigate)

25 Bainbridge

DLG—Guided Missile Destroyer Leaders (Frigates)

6 Farragut
7 Luce
8 Macdonough
9 Coontz
10 King
11 Mahan
12 Dahlgren
13 William V. Pratt
14 Dewey
15 Preble
16 Leahy
17 Harry E. Yarnell
18
19
20
21 Gridley
22
23 Halsey
24 Reeves

DL—Destroyer Leaders (Frigates)

1 Norfolk (ex-CLK 1)
2 Mitscher (ex-DD 927)
3 John S. McCain (ex-DD 928)
4 Willis A. Lee (ex-DD 929)
5 Wilkinson (ex-DD 930)

DDG—Guided Missile Destroyers

1 Gyatt (ex-DDG 712)
2 Charles F. Adams (ex-DDG 952)
3 John King (ex-DDG 953)
4 Lawrence (ex-DDG 954)
5 Biddle (ex-DDG 955)
6 Barney (ex-DDG 956)
7 Henry B. Wilson (ex-DDG 957)
8 Lynde McCormick (ex-DDG 958)
9 Towers
10 Sampson
11 Sellers
12 Robinson
13 Hoel
14 Buchanan
18 Semmes

DD—Destroyers

422 Mayo
423 Gleaves
424 Niblack
425 Madison
432 Kearny
435 Grayson
437 Woolsey
439 Edison
440 Ericsson
441 Wilkes
443 Swanson
445 Fletcher/DD E
446 Radford/DD E
447 Jenkins/DD E
448 La Vallette
449 Nicholas/DD E
450 O'Bannon/DD E
455 Hambledon
462 Fitch
465 Saufley/DD E
466 Waller/DD E
468 Taylor/DD E
470 Bache/DD E
471 Beale/DD E
472 Guest
474 Fullam
475 Hudson
478 Stanley
479 Stevens
480 Halford
489 Mervine
490 Quick
491 Farenholt
492 Bailey
493 Carmick
494 Doyle
495 Endicott
496 McCook
497 Frankford
498 Philip/DD E
499 Renshaw/DD E
501 Schroeder
502 Sigsbee
507 Conway/DD E
508 Cony/DD E
510 Eaton/DD E
511 Foote
513 Terry
517 Walker/DD E
519 Daly
520 Isherwood
521 Kimberly
527 Ammen
528 Mullany
530 Trathen
531 Hazelwood
532 Heermann
534 McCord
535 Miller
536 Owen
537 Sullivans
538 Stephen Potter
539 Tingey
540 Twining
541 Yarnall
544 Boyd
545 Bradford
546 Brown
547 Cowell
553 John D. Henley
556 Hailey
558 Laws
561 Pritchett
562 Robinson
563 Ross
564 Rowe
565 Smalley
566 Stoddard
567 Watts
568 Wren
573 Harrison
574 John Rodgers
575 McKee
576 Murray/DD E
577 Sproston/DD E
578 Wickes
580 Young
585 Haraden
587 Bell
588 Burns
589 Izard
590 Paul Hamilton
592 Howorth
593 Killen
594 Hart
595 Metcalfe
596 Shields
597 Wiley
598 Bancroft
600 Boyle
601 Champlin
602 Meade
603 Murphy
604 Parker
605 Caldwell
606 Coghlan
607 Frazier
608 Gansevoort
609 Gillespie
610 Hobby
611 Kalk
612 Kendrik
613 Laub
614 Mackenzie
615 McLanahan
616 Nields
617 Ordronaux
618 Davison
619 Edwards
621 Jeffers
623 Nelson
624 Baldwin
626 Satterlee
627 Thompson
628 Welles
629 Abbott
630 Braine
631 Erben
632 Cowie
633 Knight
634 Doran
635 Earle
637 Gherardi
638 Herndon
641 Tillman
642 Hale
643 Sigourney
644 Stembel
645 Stevenson
646 Stockton
647 Thorn
649 Albert W Grant
650 Caperton
651 Cogswell
652 Ingersoll
654 Bears
655 John Hood
656 Van Valkenburgh
657 Charles J. Badger
658 Colahan
659 Dashiell
660 Bullard
661 Kidd
662 Bennion
665 Bryant
666 Black
667 Chauncey
668 Clarence K. Bronson
669 Cotton
670 Dortch
671 Gatling
672 Healy
673 Hickox
674 Hunt
675 Lewis Hancock
676 Marshall
677 McDermutt
678 McGowan
679 McNair
680 Melvin
681 Hopewell
682 Porterfield
683 Stockham
684 Wedderburn
685 Picking
686 Halsey Powell
687 Uhlmann
688 Remey
689 Wadleigh
690 Norman Scott
691 Mertz
692 Allen M. Sumner
693 Moale
694 Ingraham
696 English
697 Charles S. Sperry
698 Ault
699 Waldron
700 Haynsworth
701 John W. Weeks
702 Hank
703 Wallace L. Lind
704 Borie
705 Compton

U.S.N. Serial Numbers—*continued*

DD—Destroyers—*continued*

706 Gainard
707 Soley
708 Harlan R. Dickson
709 Hugh Purvis
710 Gearing
711 Eugene A. Greene/DDR
713 Kenneth D. Bailey/DDR
714 William R. Rush/DDR
715 William W. Wood/DDR
716 Wiltsie
717 Theo E. Chandler
718 Hammer
719 Epperson/DDE
722 Barton
723 Walke
724 Laffey
725 O'Brien
727 De Haven
728 Mansfield
729 Lyman K. Swenson
730 Collett
731 Maddox
732 Hyman
734 Purdy
742 Frank Knox/DDR
743 Southerland/DDR
744 Blue
745 Brush
746 Taussig
747 Samuel L. Moore
748 Harry E. Hubbard
752 Alfred A. Cunningham
753 John R. Pierce
754 Frank E. Evans
755 John A. Bole
756 Beatty
757 Putnam
758 Strong
759 Lofberg
760 John W. Thomason
761 Buck
762 Henley
763 William C. Lawe
764 Lloyd Thomas /DDE
765 Keppler/DDE
770 Lowry
775 Willard Keith
776 James C. Owens
777 Zellars
778 Massey
779 Douglas H. Fox
780 Stormes
781 Robert K. Huntington
782 Rowan
783 Gurke
784 McKean/DDR
785 Henderson
786 Richard B. Anderson
787 James K. Kyes
788 Hollister
789 Eversole
790 Shelton
793 Cassin Young
794 Irwin
795 Preston
796 Benham
797 Cushing
798 Monssen
799 Jarvis
800 Porter
802 Gregory
804 Rooks
805 Chevalier/DDR
806 Higbee/DDR
807 Benner/DDR
808 Dennis J Buckley/DDR
817 Corry/DDR
818 New/DDE
819 Holder/DDE
820 Rich/DDE
821 Johnston
822 Robert H. McCard
823 Samuel B. Roberts
824 Basilone/DDE
825 Carpenter/DDE
826 Agerholm
827 Robert A. Owens/DDE
829 Myles C. Fox/DDR
830 Everett F. Larson/DDR
831 Goodrich/DDR
832 Hanson/DDR
833 Herbert J. Thomas/DDR
834 Turner/DDR
835 Charles P. Cecil/DDR
836 Georges K Mackenzie
837 Sarsfield/DDE
838 Ernest G. Small/DDR
839 Power
840 Glennon
841 Noa
842 Fiske/DDR
843 Warrington
844 Perry
845 Bausell
846 Ozbourn
847 Robert L. Wilson/DDE
848 Witek/DDE
849 Richard E. Kraus
850 Joseph P. Kennedy jr.
851 Rupertus
852 Leonard F. Mason
853 Charles A. Roan
857 Bristol
858 Fred T. Berry/DDE
859 Morris/DDE
860 McCaffery/DDE
861 Harwood/DDE
862 Vogelgesang
863 Steinaker/DDR
864 Harold J. Ellison
865 Charles R.Ware
866 Cone
867 Stribling
868 Brownson
869 Arnold J. Isbell
870 Fechteler/DDR
871 Damato/DDE
872 Forrest Royal
873 Hawkins/DDR
874 Duncan/DDR
875 Henry W. Tucker/DDR
876 Rogers/DDR
877 Perkins/DDR
878 Vesole/DDR
879 Leary/DDR
880 Dyess/DDR
881 Bordelon/DDR
882 Furse/DDR
883 Newman K. Perry/DDR
884 Floyd B. Parks
885 John R. Craig
886 Orleck
887 Brinkley Bass
888 Stickell/DDR
889 O'Hare/DDR
890 Meredith
931 Forrest Sherman
932 John Paul Jones
933 Barry
936 Decatur
937 George F. Davis
938 Jonas Ingram
940 Manley
941 Du Pont
942 Bigelow
943 Blandy
944 Mullinnix
945 Hull
946 Edson
947 Somers
948 Morton
949 Parsons
950 Richard S. Edwards
951 Turner Joy

DE—Destroyer Escorts

51 Buckley
57 Fogg
59 Foss
129 Edsall
130 Jacob Jones
131 Hammann
132 Robert E. Peary
133 Pillsbury/DER
134 Pope
135 Flaherty
137 Herbert C. Jones
138 Douglas L. Howard
139 Farquhar
140 J.R.Y. Blakeley
141 Hill
142 Fessenden/DER
144 Frost
145 Huse
146 Inch
147 Blair/DER
148 Brough
149 Chatelain
150 Neunzer
151 Poole
152 Peterson/DE(A/S)
153 Reuben James
162 Levy
163 McConnell
164 Osterhaus
165 Parks
167 Acree
170 Booth
171 Carroll
172 Cooner
176 Micka
180 Trumpeter
181 Straub
191 Coffman
198 Lovelace
199 Manning
200 Neuendorf
201 James E. Craig
202 Eichenberger
203 Thomason
210 Otter
213 William T. Powell
214 Scott
217 Coolbaugh
218 Darby
219 J. Douglas Blackwood
220 Francis M. Robinson
222 Fowler
223 Spangenberg
224 Rudderow
225 Day
231 Hodges
238 Stewart
239 Sturtevant/DER
240 Moore
241 Keith
242 Tomich
243 J. Richard Ward
244 Otterstetter/DER
245 Sloat
246 Snowden
247 Stanton
248 Swasey
249 Marchand
250 Hurst
251 Camp/DER
252 Howard D. Crow
253 Pettit
254 Ricketts
255 Sellstrom/DER
316 Harveson/DER
317 Joyce/DER
318 Kirkpatrick/DER
320 Menges
321 Mosley
322 Newell/DER
323 Pride
324 Falgout/DER
325 Lowe/DER
326 Thomas J. Gary/DER
327 Brister/DER
328 Finch/DER
329 Kretchmer/DER
330 O'Reilly/DEAS
331 Koiner/DER
332 Price/DER
333 Strickland/DER
334 Forster/DER
335 Daniel
336 Roy O. Hale/DER
337 Dale W. Peterson
338 Martin H. Ray
339 John C. Butler
340 O'Flaherty
341 Raymond
342 Richard A. Suesens
343 Abercrombie
345 Robert Brazier
346 Edwin A. Howard
347 Jesse Rutherford
348 Key
349 Gentry
350 Traw
351 Maurice J. Manuel
352 Naifeh
353 Doyle C. Barnes
354 Kenneth M.Willett
355 Jacard
356 Lloyd E. Acree
357 George E. Davis
358 Mack
359 Woodson
360 Johnnie Hutchins
361 Walton
362 Rolf
363 Pratt
364 Rombach
365 McGinty
366 Alvin C. Cockrell
367 French
368 Cecil J. Doyle
369 Thaddeus Parker
370 John L. Williamson
371 Presley
372 Williams
382 Ramsden/DER
383 Mills/DER
384 Rhodes/DER
385 Richey
386 Savage/DER
387 Vance/DER
388 Lansing/DER
389 Durant/DER
390 Calcaterra/DER
391 Chambers/DER
392 Merrill
393 Haverfield/DER
394 Swenning
395 Willis
396 Janssen
397 Wilhoite/DER
398 Cockrill
399 Stockdale
400 Hissem/DER
402 Richard S. Bull
403 Richard M. Rowell
405 Dennis
406 Edmonds
408 Straus
409 La Prade
410 Jack Miller
411 Stafford
412 Walter C. Wann
414 Le Ray Wilson
415 Lawrence C. Taylor
416 Melvin R. Nawman
417 Oliver Mitchell
418 Tabberer
419 Robert F. Keller
420 Leland E. Thomas
421 Chester T. O'Brien
422 Douglas A. Munro
423 Dufilho
424 Haas
438 Corbesier
439 Conklin
441 William Seiverling
442 Ulvert M. Moore
443 Kendale C. Campbell
444 Goss
445 Grady
446 Charles E. Brannon
447 Albert T. Harris
448 Cross
449 Hanna
450 Joseph E. Connolly
508 Gilligan
510 Heyliger
531 Edward H. Allen
532 Tweedy/DEAS
533 Howard F. Clark
534 Silverstein
535 Lewis/DEAS
536 Bivin
537 Rizzi
538 Osberg
539 Wagner/DER
540 Vandivier/DER
575 Ahrens
577 Alexander J. Luke
578 Robert I. Paine
579 Riley
580 Leslie L. B. Knox
581 McNulty
582 Metivier
583 George A. Johnson
584 Charles J. Kimmel
585 Daniel A. Joy
586 Lough
587 Thomas J. Nickel
588 Pfeiffer
589 Tinsman
633 Foreman
634 Whitehurst
638 Willmarth
639 Gendreau
640 Fieberling
641 William C. Cole
642 Paul G. Baker
643 Damon M. Cummings
644 Vammen/DEAS
665 Jenks
666 Durik
667 Wiseman
678 Harmon
679 Greenwood
680 Loeser
681 Gillette
683 Henry R. Kenyon
684 De Long
685 Coates
686 Eugene L. Elmore
696 Spangler
697 George
698 Raby
699 Marsh
700 Currier
701 Osmus
702 Earl V. Johnson
703 Holton
704 Cronin
705 Fryberger
706 Holt
707 Jobb
708 Parle
742 Hilbert
743 Lamons
744 Kyne
745 Snyder
748 Tills
749 Roberts
750 McClelland
765 Earl K. Olsen
767 Oswald
769 Neal A. Scott
790 Borum
791 Maloy
795 Gunason
796 Major
797 Weeden
798 Varian
799 Scroggins
800 Jack W. Wilke
1006 Dealey
1014 Cromwell
1015 Hammerberg
1021 Courtney
1022 Lester
1023 Evans
1024 Bridget
1025 Bauer
1026 Hooper
1027 John Willis
1028 van Voorhis
1029 Hartley
1030 Joseph K. Taussig
1033 Claud Jones
1034 John P. Perry
1035 Charles Berry
1036 McMorris

DM—Destroyer Minelayers

23 Robert E. Smith
24 Thomas E. Fraser
25 Shannon
26 Harry F. Bauer
27 Adams
28 Tolman
29 Henry A. Wiley
30 Shea
32 Lindsey
33 Gwin

MMF—Fleet Minelayer

5 Terror

MMA—Auxiliary Minelayers

11 Camanche
12 Canonicus
13 Miantonomah
14 Monadnock
15 Nausett

SS—Submarines

214 Grouper/AG(SS), ex-SSK
224 Cod
225 Cero
228 Drum
236 Silversides
240 Angler (ex-SSK)
241 Bashaw (ex-SSK)
242 Bluegill (ex-SSK)
243 Bream (ex-SSK)
244 Cavalla (ex-SSK)
245 Cobia
246 Croaker (ex-SSK)
256 Hake
265 Peto

U.S.N. Serial Numbers—*continued*

SS—Submarines—*continued*

269 Rasher/SSR
270 Raton/SSR
272 Redfin (ex-SSR)
274 Rock AGSS (ex-SSR)
282 Tunny/SSG
285 Balao
286 Billfish
287 Bowfin
288 Cabrilla
291 Crevalle AGSS
292 Devilfish
293 Dragonet
295 Hackleback
297 Ling
298 Lionfish
299 Manta/AG(SS)
300 Moray
301 Roncador
302 Sabalo
303 Sablefish
304 Seahorse
309 Aspro
310 Batfish
311 Archerfish AGSS
312 Burrfish/SRR
313 Perch/ASSP
315 Sealion/ASSP
317 Barbero/SSG
318 Baya/AG(SS)
319 Becuna
321 Besugo
322 Blackfin
323 Caiman
324 Blenny
328 Charr
331 Bugara
334 Cabezon
335 Dentuda
336 Capitaine
337 Carbonero
338 Carp
339 Catfish
340 Entemedor
341 Chivo
342 Chopper
343 Clagamore
344 Cobbler
346 Corporal
347 Cubera
348 Cusk
349 Diodon
350 Dogfish
351 Greenfish
352 Halfback
362 Guavina/AGSS
365 Hardhead
368 Jallao
374 Loggerhead
377 Menhaden
381 Sandlance
382 Picuda
383 Pampanito
385 Bang AGSS
387 Pintado
388 Pipefish
389 Piranha
390 Plaice
391 Pomfret
392 Sterlet
393 Queenfish
394 Razorback
395 Redfish
396 Ronquil
397 Scabbardfish
398 Segundo
399 Seacat
400 Seadevil
401 Seadog
402 Seafox
403 Atule
404 Spikefish
405 Sea Owl
406 Sea Poacher
407 Sea Robin
408 Sennet
409 Piper
410 Threadfin
411 Spadefish
412 Trepang
413 Spot
414 Springer
416 Tiru
417 Tench
418 Thornback
419 Tigrone (ex-SSR)
420 Tirante
421 Trutta
422 Toro
423 Torsk
424 Quillback
425 Trumpetfish
426 Tusk
435 Corsair AGSS
475 Argonaut
476 Runner
477 Conger
478 Cutlass
479 Diablo
480 Medregal
481 Requin (ex-SSR)
482 Irex
483 Sea Leopard
484 Odax
485 Sirago
486 Pomodon
487 Remora
488 Sarda
489 Spinax (ex-SSR)
490 Volador
522 Amberjack
523 Grampus
524 Pickerel
525 Grenadier
551 Bass (ex-SSK 2)
552 Bonita (ex-SSK 3)
563 Tang
564 Trigger
565 Wahoo
566 Trout
567 Gudgeon
568 Harder
569 Albacore/AGSS
571 Nautilus/SS(N)
572 Sailfish/SSR
573 Salmon/SSR
574 Grayback/SSG
575 Seawolf/SS(N)
576 Darter/SS
577 Growler/SSG
578 Skate/SSN
579 Swordfish/SS(N)
580 Barbel
581 Blueback
582 Bonefish
583 Sargo/SS(N)
584 Seadragon/SS(N)
585 Skipjack/SS(N)
586 Triton/SSR(N)
587 Halibut/SSG(N)
588 Scamp SS(N)
589 Scorpion SS(N)
590 Sculpin SS(N)
591 Shark SS (N)
592 Snook SS(N)
593 Thresher SS(N)
594 Permit SSN
595 Plunger SSN
596 Barb SSN
597 Tullibee SSN
598 George Washington SSBN
599 Patrick Henry SSBN
600 Theodore Roosevelt SSBN
601 Robert E. Lee SSBN
602 Abraham Lincoln SSBN
603 Pollack SSN
604 Haddo SSN
605 Jack SSN
606 Tinosa SSN
607 Dace SSN
608 Ethan Allen SSBN
609 Sam Houston SSBN
610 Thomas A. Edison SSBN
611 John Marshall SSBN
612 Guardfish SSN
613 Flasher SSN
614 Greenling SSN
615 Gato SSN
616 Lafayaette SSN

SST—Target Submarines

1 Mackerel
2 Marlin
3 Barracuda (ex-SSK 1

MSF—Minesweepers

55 Raven
58 Broadbill
59 Chickadee
60 Nuthatch
61 Pheasant
62 Sheldrake/AGS 19
64 Starling
100 Heed
101 Herald
102 Motive
103 Oracle
104 Pilot
105 Pioneer
107 Prevail/AGS 20
108 Pursuit/AGS 17
109 Requisite/AGS 1
110 Revenge
111 Sage
114 Staff
116 Speed
118 Steady
120 Sway
122 Swift
123 Symbol
124 Threat
126 Token
127 Tumult
128 Velocity
131 Zeal
165 Counsel
214 Crag
215 Cruise
220 Device
221 Diploma
223 Dour
224 Eager
232 Execute
233 Facility
239 Gayety
240 Hazard
241 Hilarity
242 Inaugural
252 Instill
253 Intrigue
254 Invade
255 Jubilant
256 Knave
280 Prowess
283 Ransom
284 Rebel
285 Recruit
289 Report
296 Scout
298 Scuffle
299 Sentry
300 Serene
301 Shelter
302 Signet
303 Skirmish
304 Scurry
306 Spectre
307 Staunch
308 Strategy
309 Strength
310 Success
311 Superior
314 Champion
315 Chief
316 Competent
317 Defense
318 Devastator
319 Gladiator
320 Impeccable
322 Spear
324 Vigilance
340 Ardent
341 Dextrous
356 Creddock
362 Gadwal
364 Graylag
365 Harlequin
372 Murrelet
373 Peregrine
374 Pidgeon
375 Pochard
376 Ptarmigan
377 Quail
378 Redstart
379 Roselle
381 Scoter
383 Surfbird/ADG
384 Sprig
385 Tanager
386 Tercel
387 Toucan
388 Towhee
389 Waxwing
390 Wheatear

MSO—Wooden Minesweepers

421 Agile
422 Aggressor
423 Avenge
424 Bold
425 Bulwark
426 Conflict
427 Constant
428 Dash
429 Detector
430 Direct
431 Dominant
432 Dynamic
433 Elusive
434 Embattle
435 Endurance
436 Energy
437 Enhance
438 Esteem
439 Excel
440 Exploit
441 Exultant
442 Fearless
443 Fidelity
444 Firm
445 Force
446 Fortify
447 Guide
448 Illusive
449 Impervious
455 Implicit
456 Inflict
457 Loyalty
458 Lucid
459 Nimble
460 Notable
461 Observer
462 Pinnacle
463 Pivot
464 Pluck
466 Prime
467 Reaper
468 Rival
469 Sagacity
470 Salute
471 Skill
472 Valour
473 Vigor
474 Vital
488 Conquest
489 Gallant
490 Leader
491 Persistent
492 Pledge
493 Stalwart
494 Sturdy
495 Sweave
496 Venture
508 Acme
509 Adroit
510 Advance
511 Affray
519 Ability
520 Alacrity
521 Assurance

MHC—Coastal Minehunters

43 Bittern

MSC—Coastal Minesweepers

121 Bluebird
122 Cormorant
190 Falcon
191 Frigate Bird
192 Humming Bird
193 Jacana
194 Kingbird
195 Limpkin
196 Meadow Lark
197 Parrot
198 Peacock
199 Phoebe
201 Shrike
203 Thrasher
204 Thrush
205 Vireo
206 Warbler
207 Whippoorwill
208 Widgeon
209 Woodpecker
289 Albatross
290 Gannet

MSC(O)—Old Coastal Minesweepers

13 Grackle
15 Grouse
24 Linnet
33 Plover
47 Fulmar
49 Lorikeet
51 Reedbird
53 Robin
54 Ruff
56 Turkey
58 Siskin

AGC—Amphibious Force Flagships

7 Mount McKinley
8 Mount Olympus
10 Auburn
11 Eldorado
12 Estes
14 Teton
15 Adirondack
16 Pocono
17 Taconic
369 Williamsburg

WPG Coast Guard Gunboats

31 Bibb
32 Campbell
33 Duane
35 Ingham
36 Spencer
37 Taney
39 Owasco
40 Winnebago
41 Chautauqua
42 Sebago
43 Iroquois
44 Wachusett
64 Escanaba
65 Winona
66 Klamath
67 Minnetonka
68 Androscoggin
69 Mendota
70 Pontchartrain

WAVP—Coast Guard Gunboats

370 Casco
371 Mackinac
372 Humboldt
373 Matagorda
374 Absecon
375 Chincoteague
376 Coos Bay
377 Rockaway
378 Half Moon
379 Unimac
380 Yakutat
381 Barataria
382 Bering Strait
383 Castle Rock
384 Cook Inlet
385 Dexter
386 McCulloch
387 Gresham

List of classifications of naval vessels and service craft

Every vessel in the Navy List has a distinctive serial number, prefaced by letters denoting the category to which she belongs.

A list of these symbols, with their significance, as officially promulgated, follows :

In the following lists the arrangement within the major categories and sub-categories is alphabetically by symbols. Where the identifying classification and hull number of a naval vessel or service vessel is preceded by the letter " E " it indicates that the particular vessel or craft is " Experimental." Similarly the prefix " T " indicates that the vessel is assigned to MSTS (Military Sea Transportation Service). The addition of the suffix "N" to the identifying classification indicates that that particular vessel has nuclear propulsion.

List of Naval Vessel Classifications

a. Combatant

(1) Warships

Aircraft Carriers:

Attack Aircraft Carrier	CVA
Nuclear Power Aircraft Carrier	CVAN
Small Aircraft Carrier	CVL
ASW Support Aircraft Carrier	CVS

Battleships:

Battleship	BB

Cruisers:

Heavy Cruiser	CA
Guided Missile Heavy Cruiser	CAG
Guided Missile Cruiser	CG
Nuclear Power Guided Missile Cruiser	CGN
Light Cruiser	CL
Anti-Aircra.t Light Cruiser	CLAA
Guided Missile Light Cruiser	CLG

Command Ships :

Tactical Command Ship	CLC

Destroyers:

Destroyer	DD
Nuclear Power Destroyer	DDN
Anti-Submarine Destroyer	DDE
Guided Missile Destroyer	DDG
Radar Picket Destroyer	DDR
Frigate	DL
Guided Missile Frigate	DLG
Nuclear Power Guided Missile Frigate	DLGN

Submarines :

Submarine	SS
Fleet Ballistic Missile Submarine	SSB
Nuclear Power Fleet Ballistic Missile Submarine	SSBN
Guided Missile Submarine	SSG
Nuclear Power Guided Missile Submarine	SSGN
Nuclear Power Submarine	SSN
Radar Picket Submarine	SSR
Nuclear Power Radar Picket Submarine	SSRN

(2) Amphibious Warfare Ships

Amphibious Force Flagship	AGC
Attack Cargo Ship	AKA
Attack Transport	APA
High Speed Transport	APD
Transport Submarine	APSS
Inshore Fire Support Ship	IFS
Amphibious Transport, Dock	LPD
Amphibious Assault Ship	LPH
Dock Landing Ship	LSD
Medium Landing Ship	LSM
Medium Landing Ship (Rocket)	LSMR
Support Landing Ship (Large) Mk. III	LSSL
Tank Landing Ship	LST

(3) Mine Warfare Ships

Minelayer, Destroyer	DM
Mine Countermeasures Support Ship	MCS
Minehunter, Auxiliary	MHA
Minehunter, Coastal	MHC
Minelayer, Fleet	MMF
Minelayer, Auxiliary	MMA
Minelayer, Coastal	MMC
Minesweeper, Auxiliary	MSA
Minesweeper, Coastal	MSC
Minesweeper, Coastal (old)	MSC(o)
Minesweeper, Fleet (steel hulled)	MSF
Minesweeper, Ocean (Non-magnetic)	MSO
Minesweeper, Special	MSS

(4) Patrol Ships

Escort Ship	DE
Radar Picket Escort Ship	DER
Submarine Chaser (173')	PC
Escort (180')	PCE
Rescue Escort (180')	PCER
Submarine Chaser (Hydrofoil)	PCH
Submarine Chaser (136')	PCS
Patrol Escort	PF
Motor Gunboat	PGM
Fast Patrol Boat	PTF
Yacht	PY
Submarine Chaser (110')	SC

b. Auxiliary Ships

Destroyer Tender	AD
Degaussing ships	ADG
Ammunition Ship	AE
Store Ship	AF
Combat Store Ship	AFS
Miscellaneous	AG
Icebreaker	AGB
Escort Research Ship	AGDE
Hydrofoil Research Ship	AGEH
Missile Range Instrumention Ship	AGML
Major Commumcative Relay Ship	AGMR
Oceanographic Research Ship	AGOR
Radar Picket Ship	AGR
Surveying Ship	AGS
Coastal Surveying Ship	AGSC
Satellite Launching Ship	AGSL
Auxiliary Submarine	AGSS
Hospital Ship	AH
Cargo Ship	AK
Cargo Ship, Dock	AKD
Light Cargo Ship	AKL
Net Cargo Ship	AKN
Stores Issue Ship	AKS
Cargo Ship and Aircraft Ferry	AKV
Net Laying Ship	AN
Oiler	AO
Fast Combat Support Ship	AOE
Gasoline Tanker	AOG
Replenishment Fleet Tanker	AOR
Submarine Oiler	AOSS
Transport	AP
Self-propelled Barracks Ship	APB
Small Coastal Transport	APC
Repair Ship	AR
Battle Damage Repair Ship	ARB
Cable Repairing or Laying Ship	ARC
Internal Combustion Engine Repair Ship	ARG
Landing Craft Repair Ship	ARL
Salvage Ship	ARS
Salvage Lifting Ship	ARSD
Salvage Craft Tender	ARST
Aircraft Repair Ship	ARV
Aircraft Repair Ship (Aircraft)	ARVA
Aircraft Repair Ship (Engine)	ARVE
Submarine Tender	AS
Submarine Rescue Ship	ASR
Auxiliary Ocean Tug	ATA
Fleet Ocean Tug	ATF
Seaplane Tender	AV
Advance Aviation Base Ship	AVB
Guided Missile Ship	AVM
Small Seaplane Tender	AVP
Aviation Supply Ship	AVS
Auxiliary Aircraft Transport	AVT
Distilling Ship	AW
Unclassified Miscellaneous	IX

c. Service Craft

Large Auxiliary Floating Dry Dock	AFDB
Small Auxiliary Floating Dry Dock	AFDL
Medium Auxiliary Floating Dry Dock	AFDM
Barracks Ship (non-self-propelled)	APL
Auxiliary Floating Dry Dock	ARD
Utility Landing Craft	LCU
Minesweeper, Auxiliary	MSA
Mine Sweeping Boat	MSB
Minesweeper, Inshore	MSI
Target and Training Submarine	SST
Submersible Craft	X
Miscellaneous Auxiliary	YAG
Open Lighter	YC
Car Float	YCF
Open Cargo Lighter	YCK
Aircraft Transportation Lighter	YCV
Floating Derrick	YD
Diving Tender	YDT
Covered Lighter (self-propelled)	YF
Ferryboat or Launch	YFB
Yard Floating Dry Dock	YFD
Covered Lighter (non-self-propelled)	YFN
Large Covered Lighter	YFNB
Dry Dock Companion Craft	YFND
Lighter (special purpose)	YFNX
Floating Power Barge	YFP
Refrigerated Covered Lighter (self-propelled)	YFR
Refrigerated Covered Lighter (non-self-propelled)	YFRN
Covered Lighter (Range Tender)	YFRT
Torpedo Transportation Lighter	YFT
Harbour Utility Craft	YFU
Garbage Lighter (self-propelled)	YG
Garbage Lighter (non-self-propelled)	YGN
House Boat	YHB
Dredge	YM
Motor Mine Planter	YMP
Auxiliary Motor Mine Sweeper	YMS
Gate Craft	YNG
Fuel Oil Barge (self-propelled)	YO
Gasoline Barge (self-propelled)	YOG
Gasoline Barge (non-self-propelled)	YOGN
Fuel Oil Barge (non-self-propelled)	YON
Oil Storage Barge	YOS
Patrol Craft	YP
Floating Pile Driver	YPD
Floating Workshop	YR
Submarine Repair and Berthing Barge	YRB
Submarine Repair, Berthing and Messing Barge	YRBM
Floating Dry Dock Workshop (Hull)	YRDH
Floating Dry Dock Workshop (Mach.)	YRDM
Covered Lighter (Repair)	YRL
Seaplane Wreckage Derrick	YSD
Sludge Removal Barge	YSR
Large Harbour Tug	YTB
Small Harbour Tug	YTL
Medium Harbour Tug	YTM
Torpedo Testing Barge	YTT
Drone Aircraft Catapult Control Craft	YV
Water Barge (self-propelled)	YW
Water Barge (non-self-propelled	YWN

UNITED STATES NAVY CARRIER BORNE AIRCRAFT

Name	*Maker*	*Type*	*Dimensions*	*Power Plant*	*Armament*	*Performance*	*Notes*
FURY FJ-4	North American	Single-Seat Fighter	Wing Span 39′ 1″ Folded 27′ 6″ Length 37′ 6″	One Wright J65 turbo-jet	Four 20 mm. cannon and missiles	Max. speed over 690 m.p.h.	FJ-4B is low level attack version.
SKYRAY F4D-1	Douglas	Single-Seat Fighter	Wing Span 33′ 6″ Length 45′ 8¼″	One Pratt & Whitney J57 turbojet with after-burner	Four 20 mm. cannon and missiles	Supersonic. Range 950 miles (ext. tanks)	
DEMON F3H-2N	McDonnell	Single-Seat All weather Fighter	Wing Span 35′ 4″ Length 58′ 11″	One Allison J71 turbo-jet with afterburner	Four 20 mm. cannon and missiles	Max. speed 730 m.p.h. Range 1,500 miles	F3H-2P is photo. recon. version. F3H-2M is missile armed day-fighter
TIGER F11-F1	Grumman	Single-Seat Fighter	Wing Span 31′ 8″ Length 44′ 6″	One Wright J65 turbo-jet with afterburner	Four 20 mm. cannon and missiles	Supersonic. Range 600 miles	F11F-1T is two-seat trainer version.
CRUSADER II F8U-2	Chance Vought	Single-Seat Fighter	Wing Span 35′ 8″ Folded 22′ 6″ Length 54′ 3″	One Pratt & Whitney J57 turbojet with after-burner	Four 20 mm. cannon, missiles and unguided rockets	Max. speed approx. 1,200 m.p.h. Range 560 miles	F8U-1 similar but lower-powered. F8U-1P is photo. recon. version. F8U-2N is all-weather model with in-creased armament.
PHANTOM II F4H-1	McDonnell	Two-Seat All weather Fighter	Wing Span 38′ 5″ Length 56′	Two General Electric J79 turbojets with afterburners	Missiles	Max. speed over 1,400 m.p.h.	Will replace Demon and Crusader F8U-2N
SKYWARRIOR A3D-2	Douglas	Attack Bomber	Wing Span 72′ 6″ Length 75′ 8″	Two Pratt & Whitney J57 turbojets	Two 20 mm. cannon and nuclear weapons	Max. speed 630 m.p.h. Range over 2,000 miles	A3D-2Q is radar counter-measures version. A3D-2P is photo. recon. version. A3D-2T is bombardier trainer
SKYHAWK A4D-2N	Douglas	Single-Seat Light Attack Bomber	Wing Span 27′ 6″ Length 42′ 11″	One Wright J65 turbo-jet	Two 20 mm. cannon, torpedo, missiles or nuclear weapons	Max. speed 680 m.p.h. Range 1,150 miles	A4D-1 and A4D-2 are earlier versions without complete all weather capabilities
VIGILANTE A3J-1	North American	Two-Seat Attack Bomber	Wing Span 50′ Length 70′	Two General Electric J79 turbojets with afterburners	Includes Air-to-Surface Missiles and thermo-nuclear weapons	Max. speed over 1,200 m.p.h.	To operate from *Forrestal* class carriers. Weapons ejected from tunnel in tail
A2F-1	Grumman	Two-Seat Attack Bomber		Two Pratt & Whitney J52 turbojets	Missiles and bombs	Max. speed 700 m.p.h.	For high-subsonic attack at low levels.
TRACKER S2F-2	Grumman	Four-Seat Submarine Search and Attack	Wing Span 69′ 8″ Length 42′ 3″	Two Wright R-1820-82 engines	Homing torpedo, atomic depth charge, rockets, etc.	Speed at sea level, 235 m.p.h.	S2F-3 is improved version with bigger span and length. TRACER WF-2 is radar early warning version
HO4S-1, 2, 3	Sikorsky	Multi-Seat or Anti-Submarine Helicopters	Rotar Dia. 53′ Fuselage 42′ 3″	One Pratt & Whitney R-1340 engine (HO4S-1 and 2). R-1300 engine (HO4S-3)		Max. speed (R-1340) 101 m.p.h. (R-1300) 112 m.p.h.	
HUK-1	Kaman	Four or Five-Seat Helicopter	Rotor Dia. 47′ Fuselage 25′	One Pratt & Whitney R-1340-48 radial en-gine	None	Max. speed 109 m.p.h. Range 220 miles	HOK-1 similar
SEASPRITE HU2K-1	Kaman	Multi-Seat Helicopter	Rotor Dia. 44′ Fuselage 52′ 2″	One General Electric T58 engine	None		For transport (12 passen-gers), rescue and ambu-lance duties
RETRIEVER HUP-2, 3	Vertol (Boeing)	Helicopter	Rotor Dia. 35′ Fuselage 32′	One Continental R-975-46 engine	None	Max. speed 105 m.p.h. Range 340 miles	
HSS-1	Sikorsky	Anti-Submarine Helicopter	Rotor Dia. 56′ Fuselage 47′ 2″	One Wright R-1820-84 radial air-cooled en-gine		Max. speed 120 m.p.h. Range 190 miles	
HSS-2	Sikorsky	Anti-Submarine Helicopter	Rotor Dia. 62′ Fuselage 54′ 9″	Two General Electric T85 shaft turbine en-gines	Homing torpedoes and rockets	Max. speed 117 m.p.h.	Amphibious

UNITED STATES NAVY GUIDED MISSILES

Category	*Name*	*Maker*	*Overall Length Ft.*	*Propulsion*	*Speed Mach.*	*Range Miles*	*Guidance System*	*Notes*
AIR TO AIR	SPARROW III AAM-N-6	Raytheon	12	Aerojet-General solid propellent	2·5	5	Semi-active	Arms F3H-2M and F4H-1 fighters
	SIDEWINDER AAM-N-7	Philco and General Electric	9·4	Hercules solid propellent	2·5	2·1	Infra-red homing	Also advanced Sidewinder. IC with improved guidance
	EAGLE AAM-N-10	Bendix		Aerojet General solid propellent	3+	30-100	Active	Nuclear warhead
AIR TO SURFACE	BULLPUP ASM-N-7	Martin	10·5	Naval Propellent Plant solid propellent	1·8	3 slant	Command	Built around standard 250lb. bomb
AIR TO UNDERWATER	PETREL AUM-N-2	Fairchild	24	Fairchild J44-R-26 turbojet and Mk. 13 torpedo motor	0·7	5	Command and active homing	Being superseded
SURFACE TO AIR	TALOS SAM-N-6	Bendix	31	Bendix ramjet. Solid propellent booster	2·5	65 slant	Beam riding cruise phase. Semi-active homing	Carried by cruisers. High explosive or nuclear warhead. Also used in surface-to-surface rôle. Advanced versions under development.
	TERRIER SAM-N-7	Convair	27	Allegany Ballistics solid propellent. Solid propellent booster	2·5	10 slant	Beam rider	Carried by cruisers and destroyers. Later ships of *Forrestal* class will carry this system
	TERRIER II TERRIER III	Convair	29·5	As Terrier	3·0	20 slant		Carried by frigates and smaller warships, as well as large ships
	TARTAR	Convair	15	Aerojet-General propellent	2·5	10 slant		Carried by destroyers
	TYPHON							Weapons system to employ Super-Talos and Tartar missiles
SURFACE TO SURFACE	REGULUS I SSM-N-8	Chance Vought	33	Allison J33 turbo-jet. Solid propellent boosters	0·87	575	Command	Carried by cruisers and submarines. Nuclear warhead
	POLARIS A1-P	Lockheed	28	Aerojet-General solid propellent	10	1,200	Inertial	Bombardment missile of Fleet Ballistic Missile System, to be carried by submarines and capable of submerged launch. The nuclear powered submarines of the *Geoge Washington* class will carry 16 POLARIS missiles. May be carried by nuclear powered cruiser *Long Beach* and other surface vessels

ANTI-SUBMARINE WEAPONS

RAT (Project cancelled) — An anti-submarine torpedo weighing 480 lbs., and 13·5 feet in length, projected by an Allegany rocket charge from its launching vessel to the estimated vicinity of a submarine target. Before entering the water, the rocket propellent mechanism is jettisoned and a parachute steadies the torpedo as it descends. Once in the water the parachute and a shock-resistant nose cap are released and the torpedo commences its search and attack phase, guidance to the submarine target being effected by a homing device. This weapon can be fired from existing 5 in. gun mounting. Programme reported cancelled.

WEAPON ABLE — A 12·75 in. anti-submarine rocket weighing 500 lbs., fired at a detected submarine from a mounting with an almost circular field of fire.

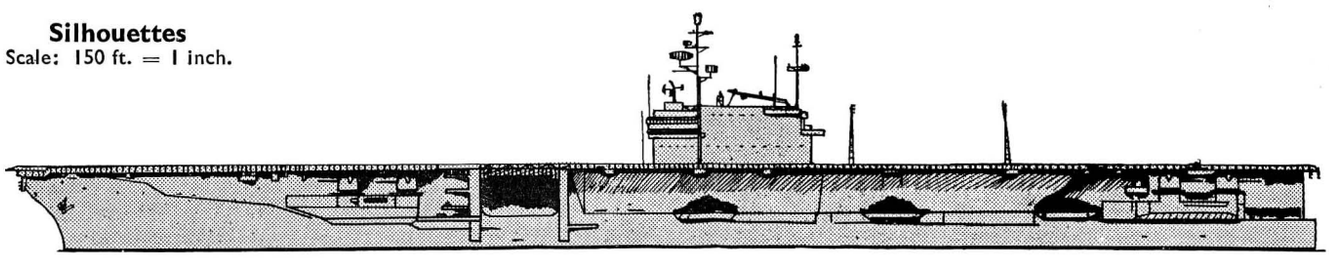
ASROC (Anti-Submarine Rocket) — Developed by Minneapolis-Honeywell, a rocket propelled missile to supersede RAT on surface ships. After an aerial trajectory to the vicinity of a target, enters the water and homes acoustically. Nuclear warhead optional. 15 ft. anti-submarine rocket declared combat ready in mid-June 1960.

SUBROC (Submarine Rocket) — Under development by Goodyear Corporation, a rocket propelled missile about 14 ft. in length, to be launched from above surface or from submerged submarines, emerges from the water and after an aerial trajectory to the vicinity of the target is guided by sonar equipment from the launching vessel to dive down on enemy submarines. Has considerable range—as far as 30 miles. Nuclear warhead optional. To be combat ready in Feb. 1961.

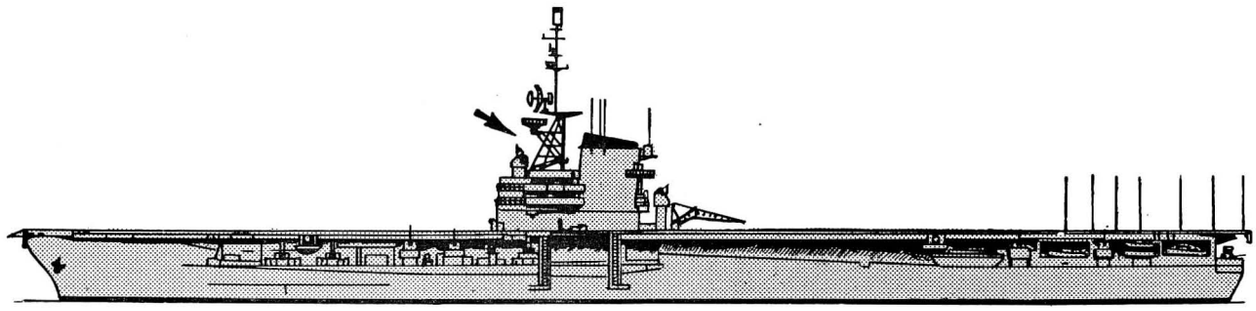
ASTOR — An anti-submarine torpedo with nuclear warhead, under development by Westinghouse. Range reported as over 11 miles.

DASH — Drone anti-submarine helicopter for use by destroyers. Helicopter carries ASW torpedo released remotely by destroyer after destroyer gains sonar contact.

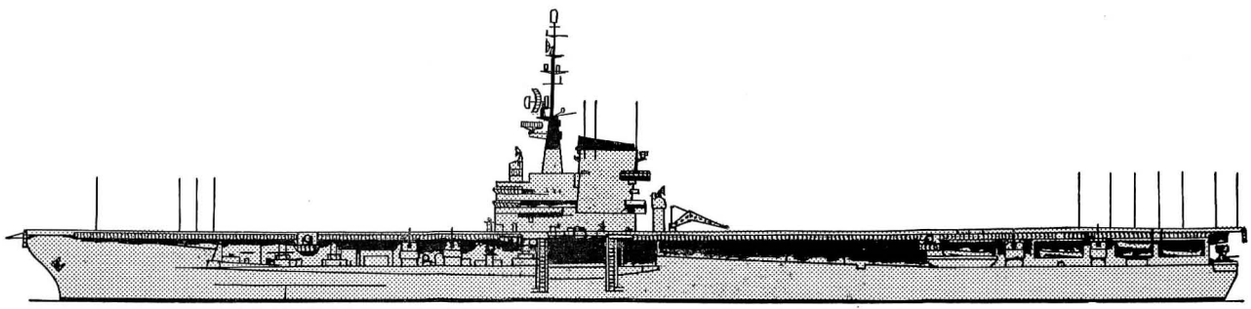
Silhouettes
Scale: 150 ft. = 1 inch.



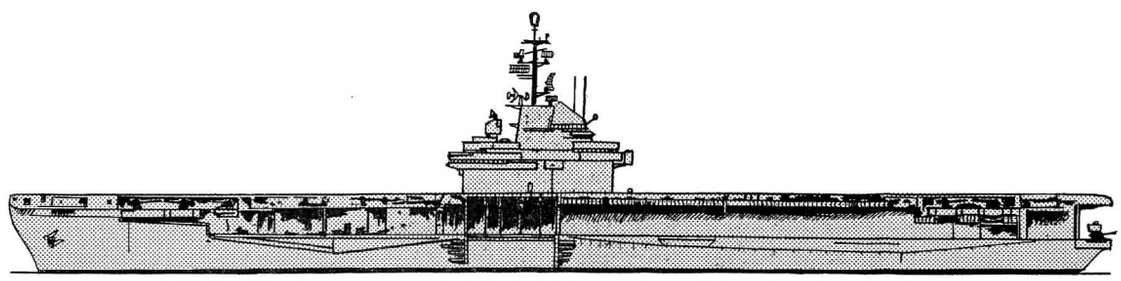
FORRESTAL *Class*



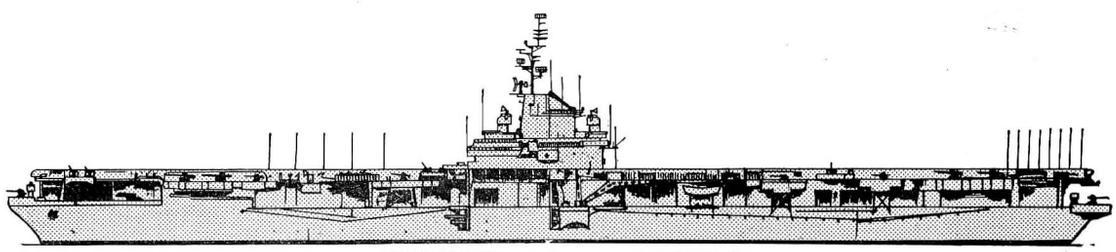
MIDWAY after conversion with angled deck and enclosed bow



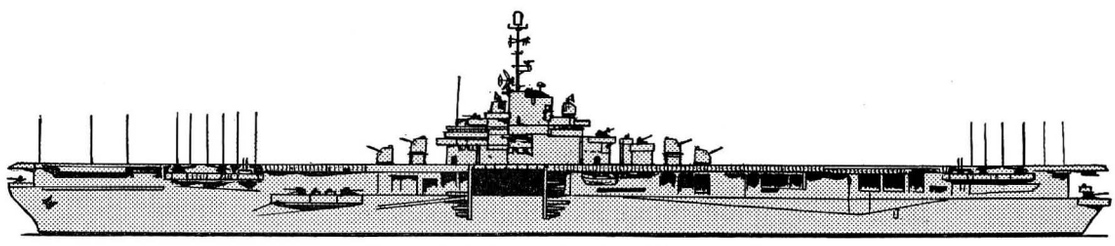
FRANKLIN D. ROOSEVELT after conversion with angled deck and enclosed bow



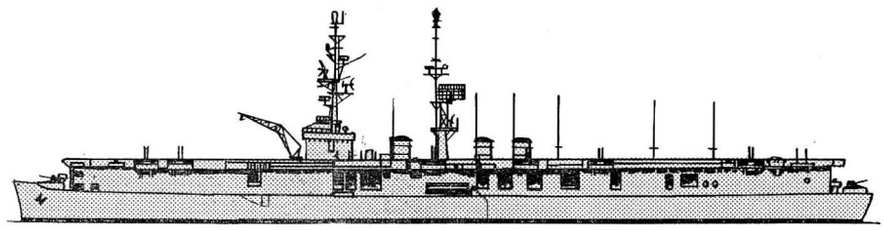
RANDOLPH and other converted ESSEX *Class* with angled deck and enclosed bow



ORISKANY and improved ESSEX *Class*



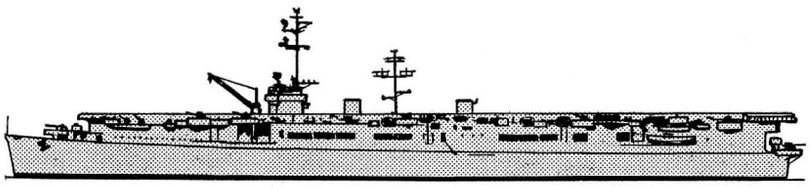
PHILIPPINE SEA and original ESSEX *Class*



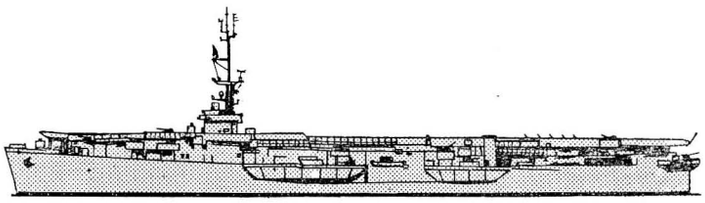
SAIPAN, WRIGHT

Silhouettes—*continued*

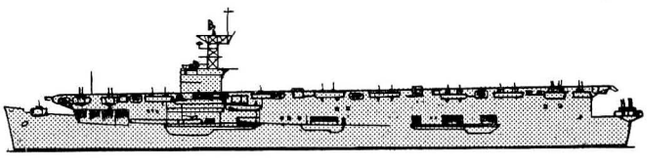
Scale : 150 ft. = 1 inch



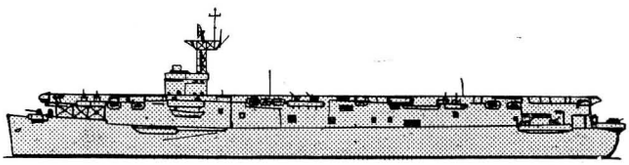
CABOT and MONTEREY



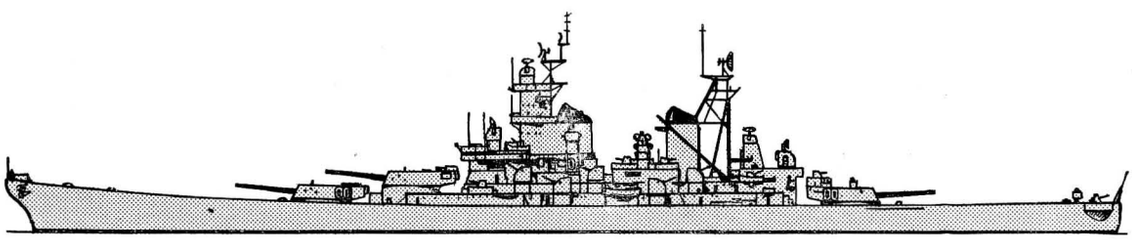
COMMENCEMENT BAY *Class*



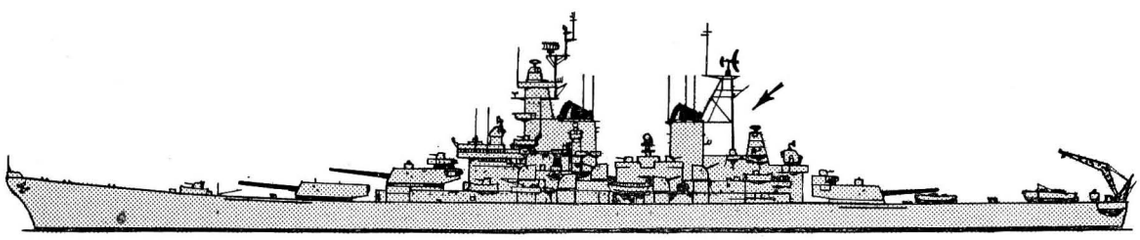
ANZIO *Class*



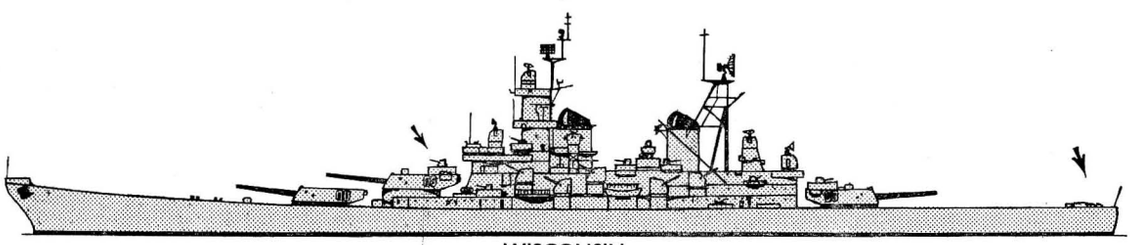
BOGUE *Class*



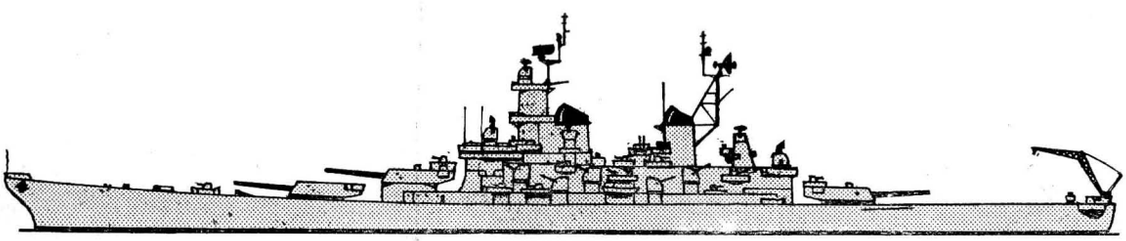
IOWA



NEW JERSEY



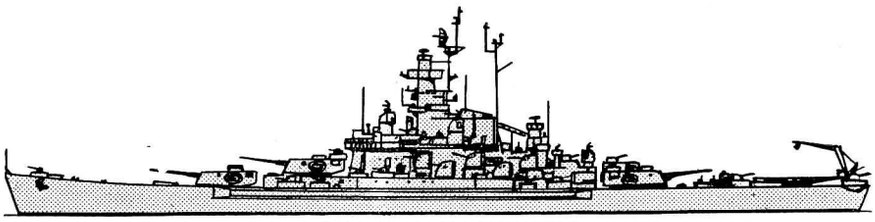
WISCONSIN



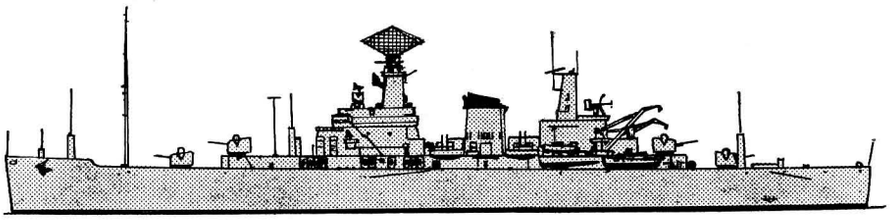
MISSOURI

Silhouettes—*continued*

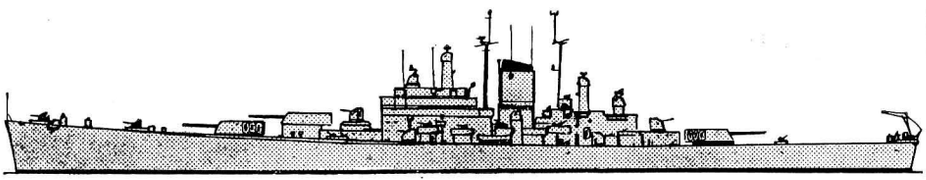
Scale : 150 ft. = 1 inch



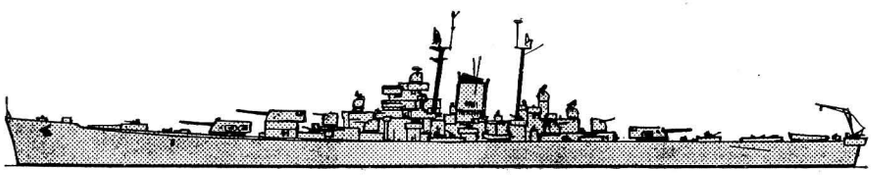
ALABAMA, INDIANA, MASSACHUSETTS, SOUTH DAKOTA



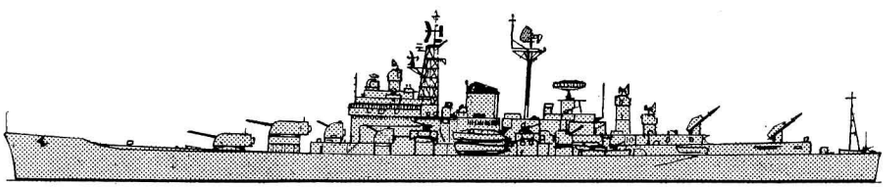
NORTHAMPTON. Tactical Command Ship. Originally designed as a Heavy Cruiser



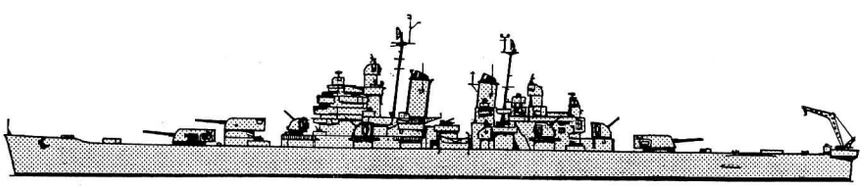
DES MOINES, NEWPORT NEWS, SALEM



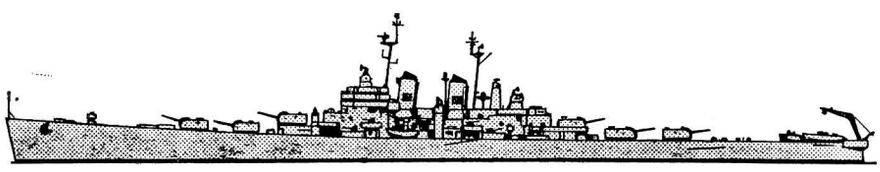
ALBANY (before conversion), OREGON CITY, ROCHESTER



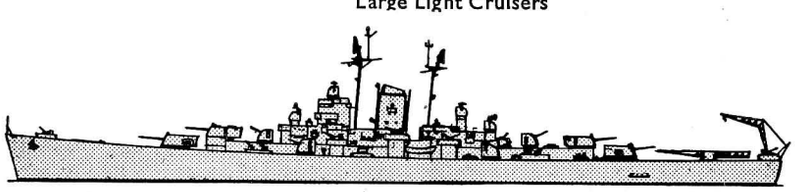
BOSTON, CANBERRA. Guided Missile Ships converted from Heavy Cruisers



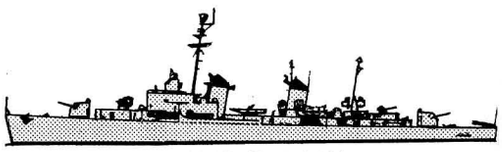
BALTIMORE *Class*



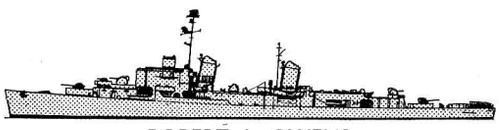
WORCESTER. ROANOKE without erection forward and no stumps before second funnel
Large Light Cruisers



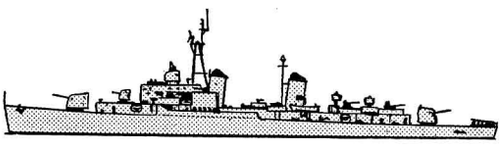
FARGO, HUNTINGTON
Light Cruisers



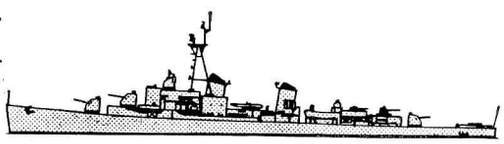
FRED T. BERRY



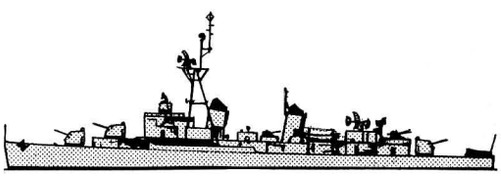
ROBERT A. OWENS



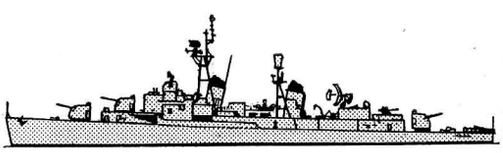
BASILONE



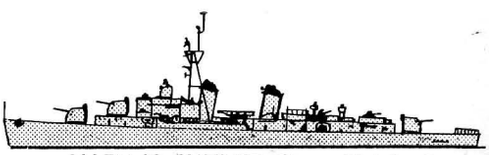
GEARING *Class* with tripod mast



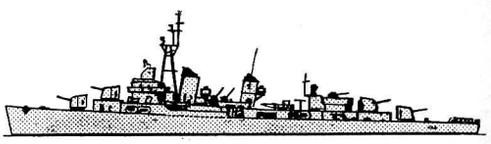
WILLIAM R. RUSH



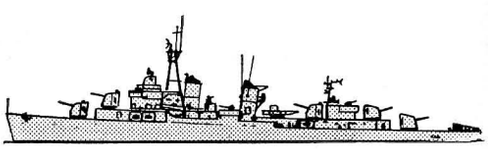
BORDELON



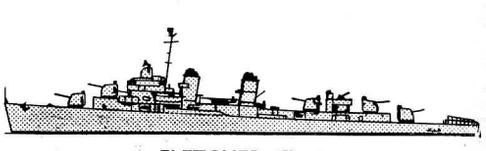
ALLEN M. SUMNER *Class* with tripod



FLETCHER *Class* with 4— 5″ guns

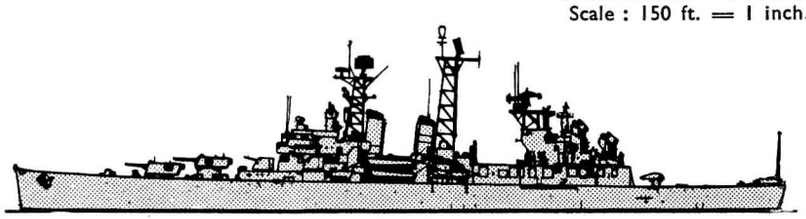


FLETCHER *Class* with 5—5″ guns

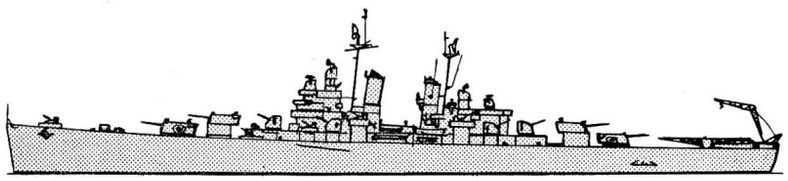


FLETCHER *Classes*
(Later type. Earlier vessels have higher fire control)

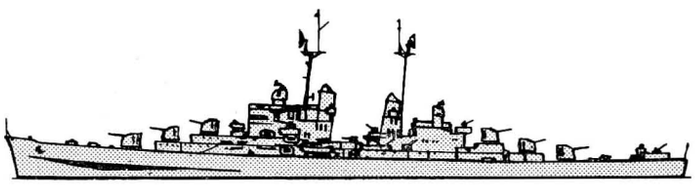
Silhouettes—*continued*
Scale : 150 ft. = 1 inch.



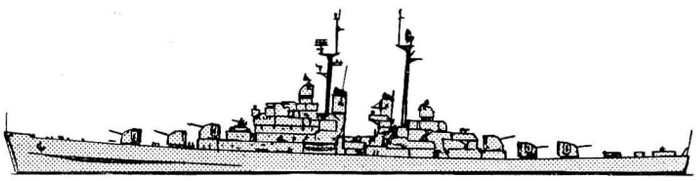
GALVESTON



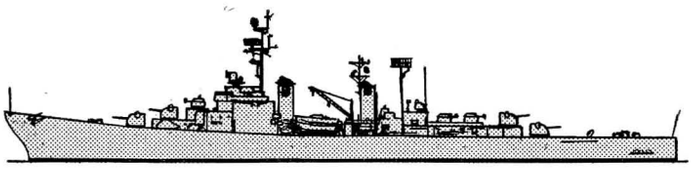
VINCENNES *Class*



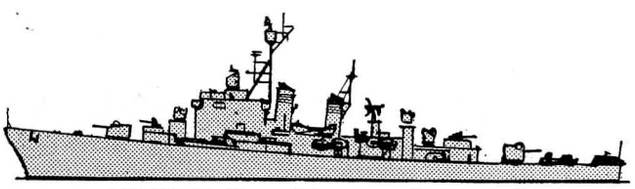
FLINT, TUCSON. Anti-Aircraft Light Cruisers



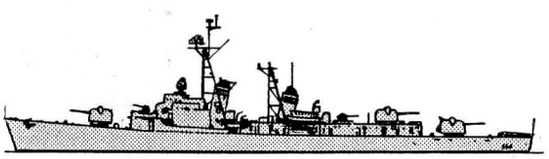
FRESNO, SPOKANE. Anti-Aircraft Light Cruisers



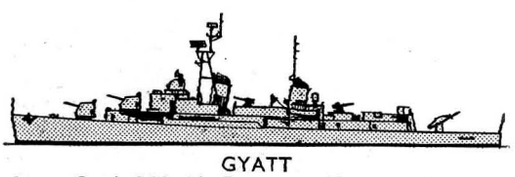
NORFOLK. Frigate, ex-Anti-Submarine Light Cruiser



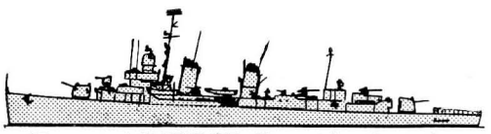
MITSCHER *Class*. Frigates, ex-Destroyer Leaders



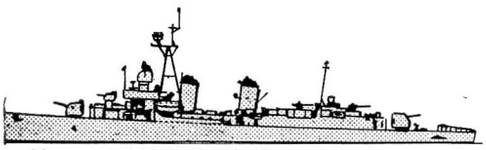
FORREST SHERMAN *Class*. Large Destroyers



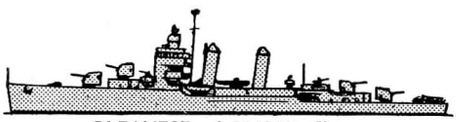
GYATT
Guided Missile Destroyer (Converted)



(Converted FLETCHER *Class* with polemast)



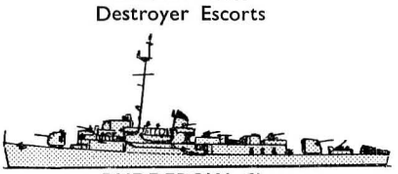
(Converted FLETCHER *Class* with tripod mast)



GLEAVES and MAYO *Classes*



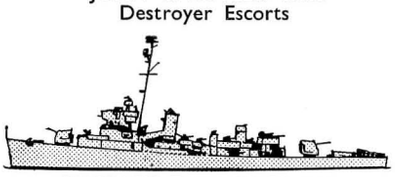
DEALEY *Class*
Destroyer Escorts



RUDDEROW *Class*
Destroyer Escorts



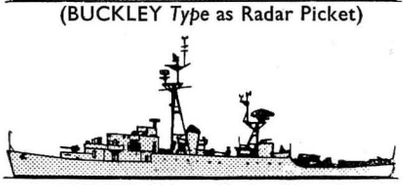
JOHN C. BUTLER *Class*
Destroyer Escorts



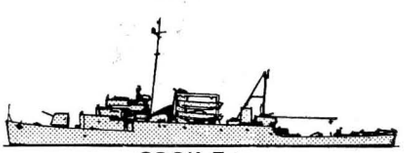
BUCKLEY *Type* with 5" guns
Destroyer Escorts



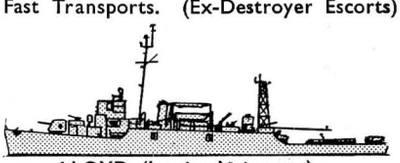
(BUCKLEY *Type* as Radar Picket)



(EDSALL *Type* as Radar Picket)

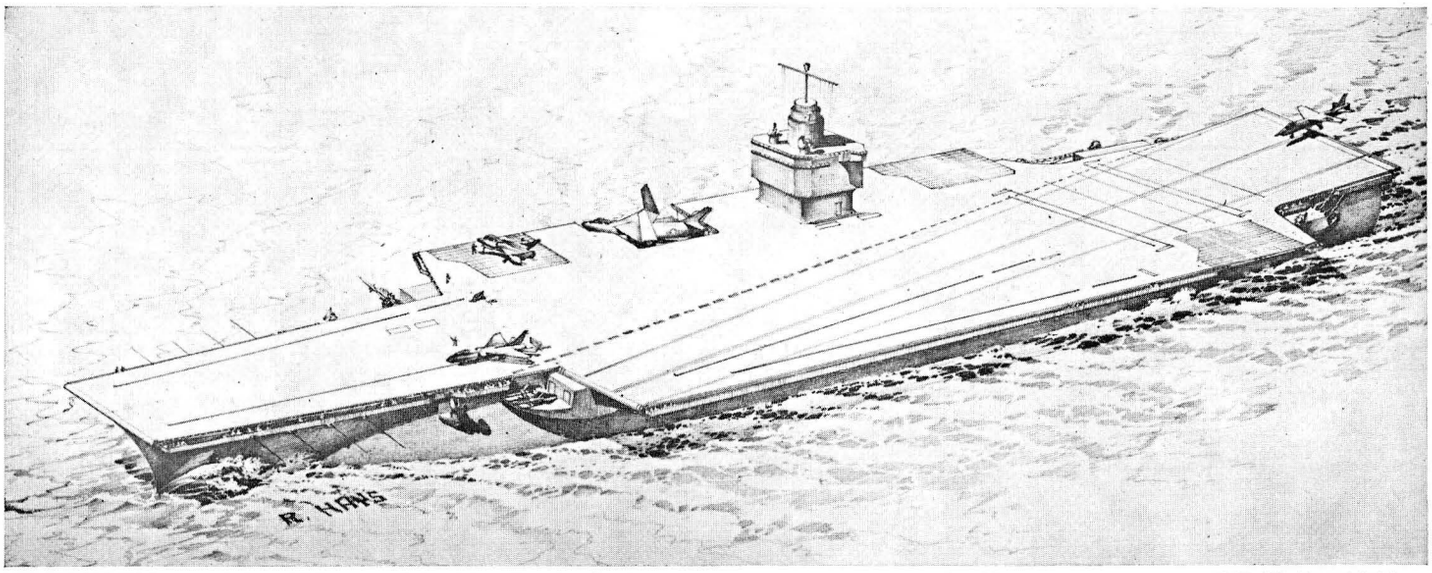


COOK *Type*
Fast Transports. (Ex-Destroyer Escorts)



LLOYD (Lattice Mainmast)
Fast Transport (ex-Destroyer Escort)

NUCLEAR POWERED ATTACK AIRCRAFT CARRIER (CVAN)



ENTERPRISE (compare layout with *Ranger*, see below, taken at same angle. Note different shape of lifts, to take larger aircraft) 1957, *U.S. Navy, Official*

ENTERPRISE

No.:	CVA(N) 65
Builders:	The Newport News Shipbuilding and Dry Dock Company, Newport News, Virginia
Engineers.	Westinghouse Electric Corporation, Pittsburgh, Pennsylvania
Ordered:	16 Aug. 1957
Laid down:	4 Feb. 1958
Launched:	24 Sep. 1960
Displacement:	75,700 tons *standard*, (85,350 tons *full load*)
Dimensions:	Length 1,101 (*o.a.*) feet. Beam: 133 feet (hull). Width, 252 feet (flight deck) extreme. Draught: 37 (*max.*) feet. Hangar height: 25 feet. Area of flight deck: 5 acres
Aircraft:	100 (more or fewer, according to size and type)
Catapults:	4 of C 14 type (internal combustion design claimed to have 50 per cent more power than steam catapults)
Guided Missiles:	Reported will have no ship launched missiles
Machinery:	8 pressurised water cooled A 1 W nuclear reactors. Geared steam turbines. 4 shafts. S.H.P.: 280,000=33 kts. (35 kts. *max.*)
Complement:	440 officers and 4,160 men

General Notes

The world's largest aircraft carrier ever to be constructed. Being built under the Fiscal 1958 new construction program. The advance design and procurement of this first nuclear powered attack aircraft carrier was provided for under the Fiscal 1957 Appropriations. She will have an unusually broad flight deck, a block island superstructure and no funnels; fully angled deck; four deck-edge lifts, three on the starboard side, one on the port. She will have almost unlimited steaming endurance at high speed without regard to the conserving of fuel, thus improving her offensive and defensive capabilities and reducing her replenishment requirements. She will be capable of steaming for five years without refuelling. She will be able to carry twice as much aviation fuel as the " Forrestal " class. An additional 4,000 sq. ft. of flight deck space will permit the operation of more and larger aircraft. With nuclear propulsion the new carrier will not require funnels or uptakes and this will reduce the superstructure to improve the radar capabilities and simplify the damage control. The absence of smoke stacks and boiler air intakes will reduce the vulnerability of the power plant to battle damage and it eliminates the possibility of radioactive or biological agents entering the ship. A " stackless " ship also allows an island configuration which makes feasible the installation of new high performance radar. The new radar of four fixed antennae built into the sides of the island superstructure will double present radar ranges. New catapults will double the launching energy of steam catapults.

Cost now estimated to be $435,000,000 (about £155,400,000) as revised in 1959, compared with $380,000,000 (£135,700,000) as revised in 1958 and $314,000,000 (about £112,141,000) the original estimate.

Engineering Notes

The nuclear propulsion plant for the new aircraft carrier was designed and developed by the Atomic Energy Commission at their Bettis plant in Pittsburgh, Pennsylvania, in co-operation with the Department of the Navy. Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, obtained the contract to design and furnish the reactor compartment components and build the steam propulsion machinery on 17 Dec. 1957 (announced officially). There are two reactors for each of the four shafts. The eight reactors feed 32 heat exchangers (8×35,000=280,000). Expected to run five years with their first charge.

Nomenclature Notes

Names considered for this class included *Congress*, *Constitution* and *Enterprise*.

Class Notes

It was the intention to build six nuclear powered attack aircraft carriers of this new class to bring the number of attack aircraft carriers up to the U.S. Navy's operational requirements of a minimum of 15 large and modern vessels with the six vessels of the " Forrestal " class and the three modernised ships of the " Midway " class.

Future Construction Notes

The U.S. Navy is studying 15 designs for a second nuclear powered aircraft carrier which will be smaller and less expensive than the new *Enterprise*; but the Navy's request for construction funds was not granted and $35,000,000 for long-lead items for the second nuclear powered aircraft carrier was taken out of the Fiscal Year 1959 budget. The ship was estimated to cost between $200,000,000 and $300,000,000, and to be smaller than *Enterprise* owing to newly designed smaller reactors.

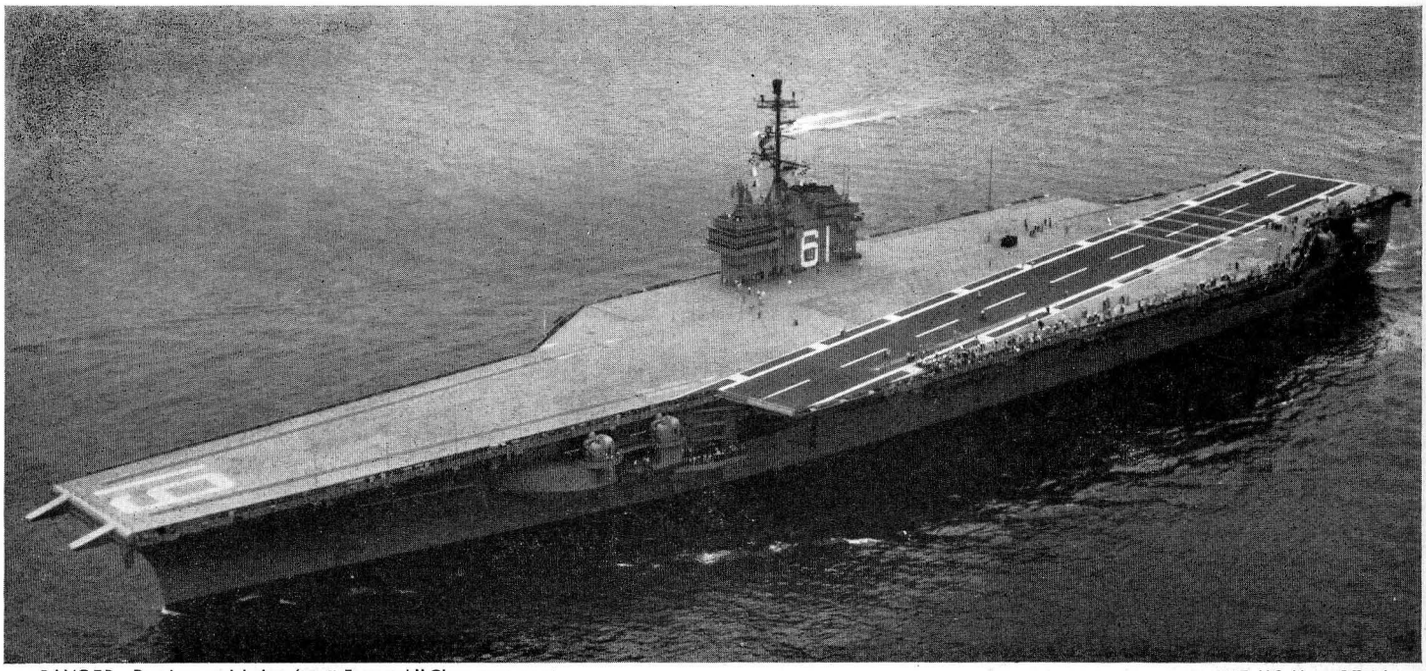
ATTACK AIRCRAFT CARRIERS (CVA)

1 New Construction

Displacement:	64,000 tons *standard* (77,000 tons *full load*)
Dimensions:	Flight deck: Length 1,046 feet. Beam: 252 feet.
Aircraft:	3 Attack (VA) and 2 Fighter (VF) squadrons
Guided Missiles	2 twin " Terrier " launchers.
Machinery:	4 geared turbines. 4 shafts. S.H.P.: 280,000=35 kts.
Boilers:	8

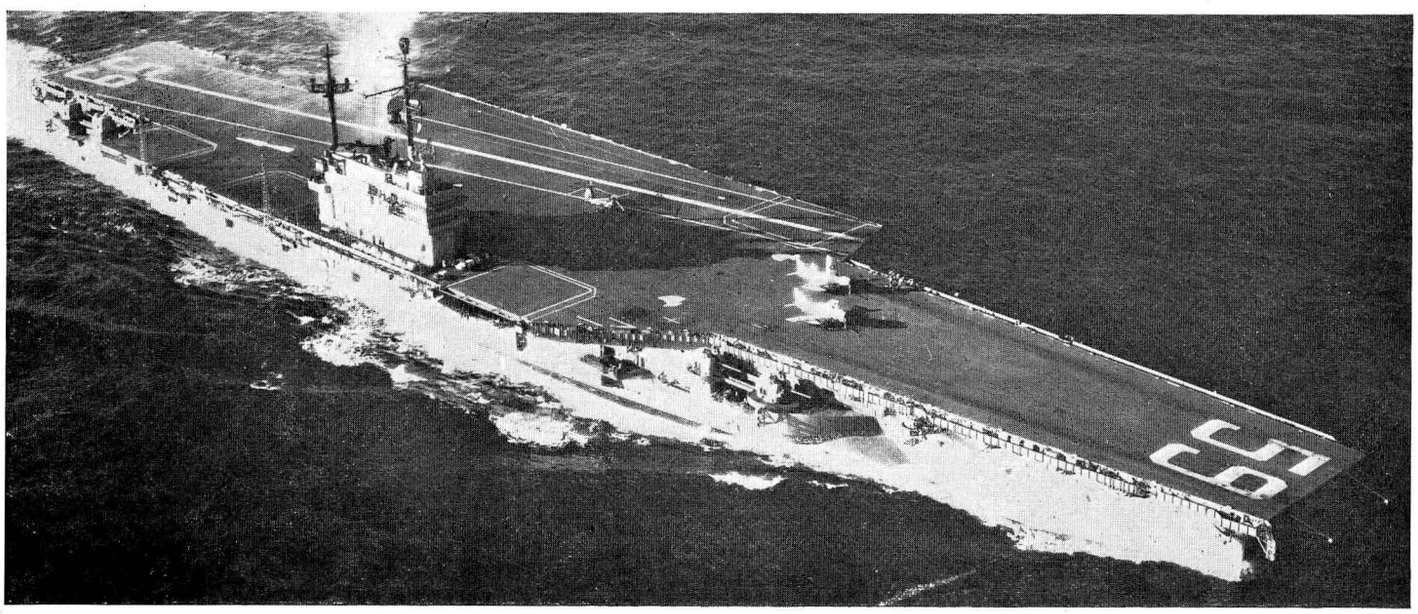
Notes

A conventionally powered attack aircraft carrier authorised by Congress under the 1961 new construction programme at a cost of $293,000,000. Slightly larger and heavier than the " Forrestal " class but smaller than the nuclear powered *Enterprise*. Major differences between the new carrier and her near sisters of the " Forrestal " class are the different elevator arrangement with two lifts in front of the bridge and port side, one on the after quarter; a more streamlined island structure; improved long range search radar and an automatic aircraft landing system.



RANGER. Port bow aerial view (see " Forrestal " Class, next page) 1957, *U.S. Navy, Official*

Attack Aircraft Carriers—*continued*



FORRESTAL (starboard bow aerial view

1958, *United States Navy, Official*

6 "Forrestal" Class

CONSTELLATION
FORRESTAL
INDEPENDENCE

KITTY HAWK
RANGER
SARATOGA

Displacement:	60,000 tons *standard* (76,000 tons *full load*) except *Forrestal*, 59,650 tons (75,900 tons *full load*).
Dimensions:	Length: 990 (*pp.*), 1,039 (*o.a.*) *Forrestal*, 1,045⅞ (*o.a.*) *Saratoga*, 1,046 (*o.a.*) *Ranger*, *Independence*, *Kitty Hawk*, 1,047 (*o.a.*), *Constellation*, 1,047½ (*o.a.*) feet. Beam: 252 (*extreme width of flight deck*), 129¼ (*waterline beam*) feet. Draught: 37 (*max.*) feet.
Guns:	8—5 inch, 54 cal. dual purpose
Guided Missiles:	"Regulus" in *Forrestal* and *Saratoga*. 2 twin "Terrier" launchers in *Kitty Hawk* and *Constellation*
Aircraft:	90 to over 100, according to size and type. *Cougars*, *Cutlasses*, *Demons*, *Furys* and *Skywarriors* in *Ranger*
Catapults:	4 steam
Machinery:	4 General Electric turbines and gears (*Ranger*, *Saratoga*), Westinghouse (*Forrestal*). 4 shafts. S.H.P.: 260,000 =33 kts. (*Saratoga* 35 kts.). 2 propellers are four-bladed and 2 five-bladed
Boilers:	8 Babcock & Wilcox (*Forrestal*, *Independence*, *Ranger*), 8 by N.Y. Naval Shipyard (*Saratoga*)
Complement:	War: 4,142 (443 officers, 3,699 men) Peace: 3,412 officers and men with an air group on board. 2,662 without an air group on board

General Notes

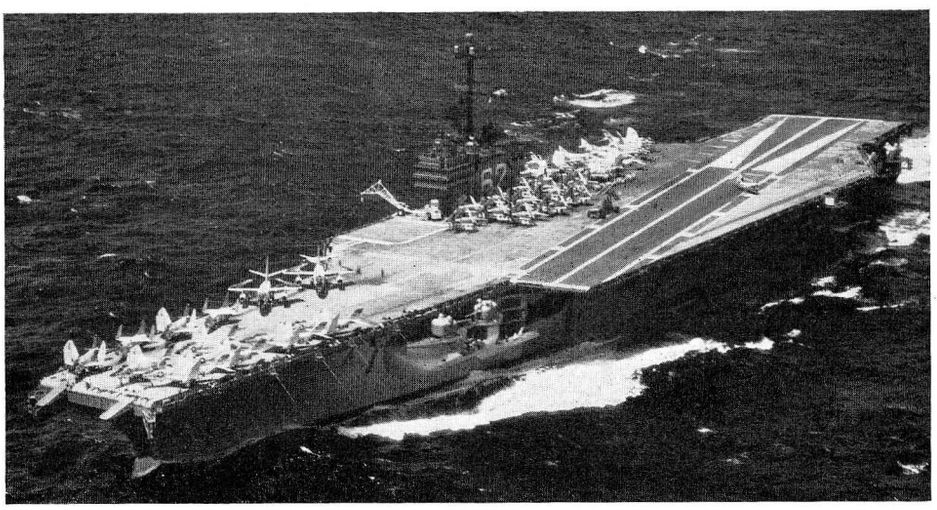
Able to handle any carrier borne aircraft now in the fleet or on the drawing boards. Capable of launching and retrieving aircraft simultanously. *Forrestal* was originally to have been flush-decked with retractable bridge. Re-designed with angled deck and the usual fixed island superstructure on the starboard side. Four deck edge elevators and three separate launching areas for aircraft. *Forrestal* (contract awarded 12 July 1951) was named after the Secretary of Defense who was in office when the subsequently cancelled Heavy Carrier *United States* (CVA 58) was named in 1949. *Ranger* authorised 1954 Fiscal year; contract awarded 2 Feb. 1954. *Independence* authorised in 1955 Fiscal appropriations. *Kitty Hawk*, named for the site where the Wright Brothers made their historic flights, was first tentatively to have been named *Congress*. Cost $218,000,000 (*Forrestal*), $209,700,000 (*Saratoga*), $182,000,000 (*Ranger*), $189,311,000 (*Independence*) and $150,000,000 (*Constellation*). A seventh ship of this class, requested in the Fiscal Year 1960 Program, was not approved.

Construction Notes

Flight deck about 80 feet longer than that in the "Midway" class to operate larger, heavier carrier-based naval aircraft of the newest designs. Increased catapult and arresting capacity, larger elevators, higher hangar decks, mirror sight to aid in landing on aircraft, added armour and improved underwater protection. The flight deck is a strength deck by reducing the openings in the hangar sides, bow enclosed up to the flight deck for seaworthiness in all types of weather, island acoustically constructed to block out external noise, air-conditioned berthing quarters, three rudders. *Independence* has sponsons streamlined from below, which is a refinement over other "Forrestal" class carriers. The installation of additional electronic equipment in *Kitty Hawk* has delayed her completion. The launching and completion dates for the last two ships in the table are official estimates. *Independence* commissioned on 10 Jan. 1959. *Kitty Hawk* is estimated to commission in Nov. 1960 and *Constellation* on 25 Feb. 1961.

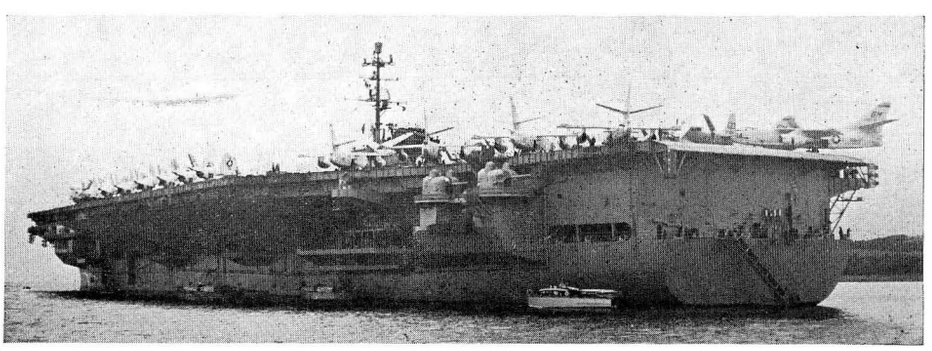
Disposition Notes

Ranger, *Kitty Hawk* and *Constellation* are scheduled for service in the Pacific Fleet, other three in Atlantic Fleet.



INDEPENDENCE (port bow aerial view)

1959, *United States Navy, Official*



SARATOGA (port quarter view)

1958, *courtesy Ian S. Pearsall, Esq.*

Engineering Notes

Kitty Hawk has four 5-bladed propellers. *Saratoga* has machinery arrangements to produce somewhat higher speeds. It is officially stated that *Independence*, *Kitty Hawk* and *Constellation* have substantially the same characteristics, but with somewhat more powerful propelling machinery.

Appearance Notes

Mast configurations differ. Two masts in *Forrestal*, one in others.

Photograph Notes

Very large starboard broadside view of *Forrestal*, large port aerial near broadside view of *Forrestal*, port broadside view of *Saratoga*, port bow aerial view of *Saratoga* with all elevators down and her mainmast lowered, and bow aerial view of *Ranger* showing catapults and angled deck, in the 1957-58 edition. Port bow earial view of *Ranger* on previous page. Bow view of *Ranger* showing island superstructure sponson on page 476 (Addenda) of the 1959-60 edition.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
CVA 59	*Forrestal*	Newport News S.B. Co.	14 July 1952	11 Dec. 1954	1 Oct. 1955
CVA 60	*Saratoga*	New York Naval Shipyard	16 Dec. 1952	8 Oct. 1955	14 Apr. 1956
CVA 61	*Ranger*	Newport News S.B. Co.	2 Aug. 1954	29 Sep. 1956	10 Aug. 1957
CVA 62	*Independence*	New York Naval Shipyard	1 July 1955	6 June 1958	3 Apr. 1959
CVA 63	*Kitty Hawk*	New York S.B. Corp., N.J.	27 Dec. 1956	21 May 1960	14 Nov. 1960
CVA 64	*Constellation*	New York Naval Shipyard	14 Sep. 1957	8 Oct. 1960	1961

Attack Aircraft Carriers—*continued*

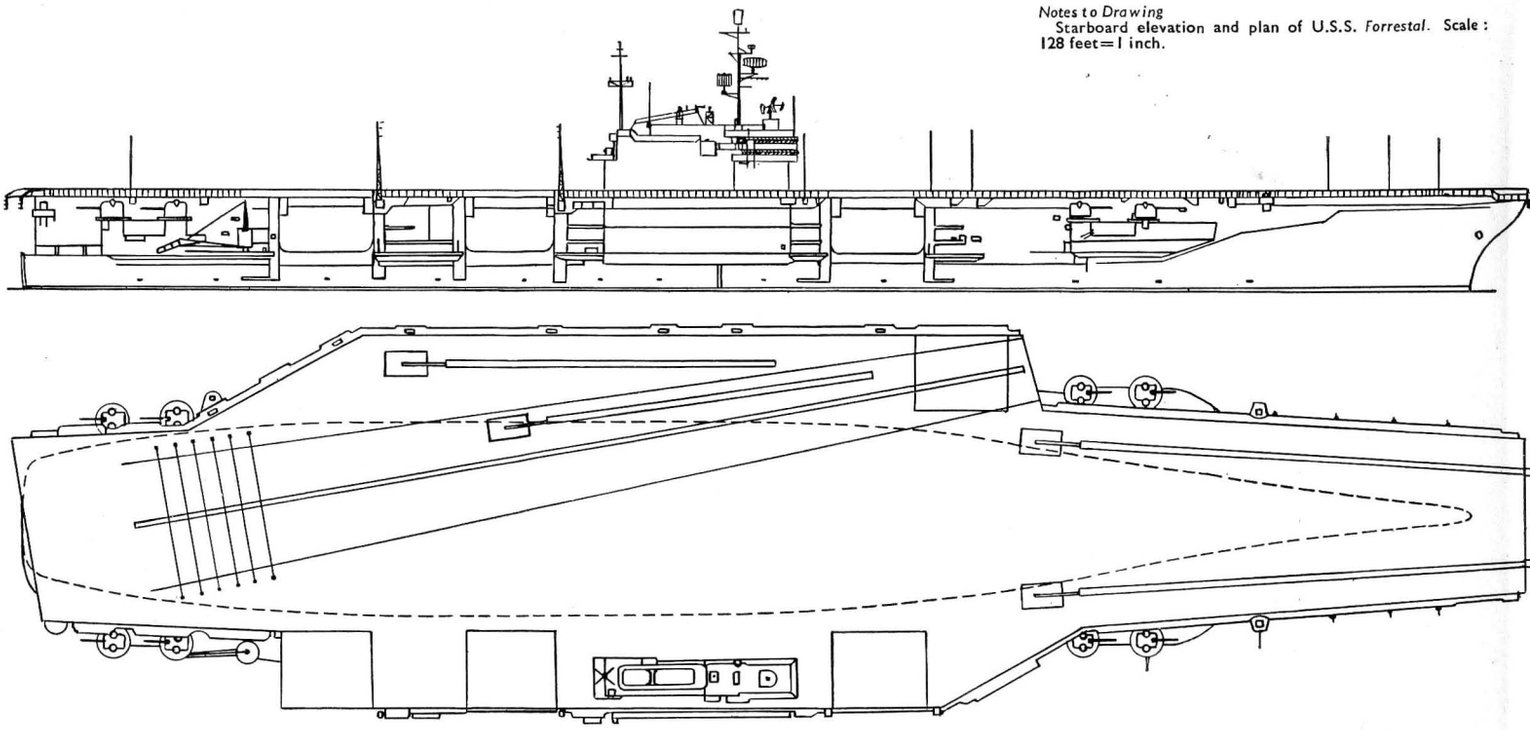
6 "Forrestal" Class—*continued*



INDEPENDENCE (starboard broadside aerial view)

1959, *United States Navy, Official*

Notes to Drawing
Starboard elevation and plan of U.S.S. *Forrestal*. Scale: 128 feet = 1 inch.

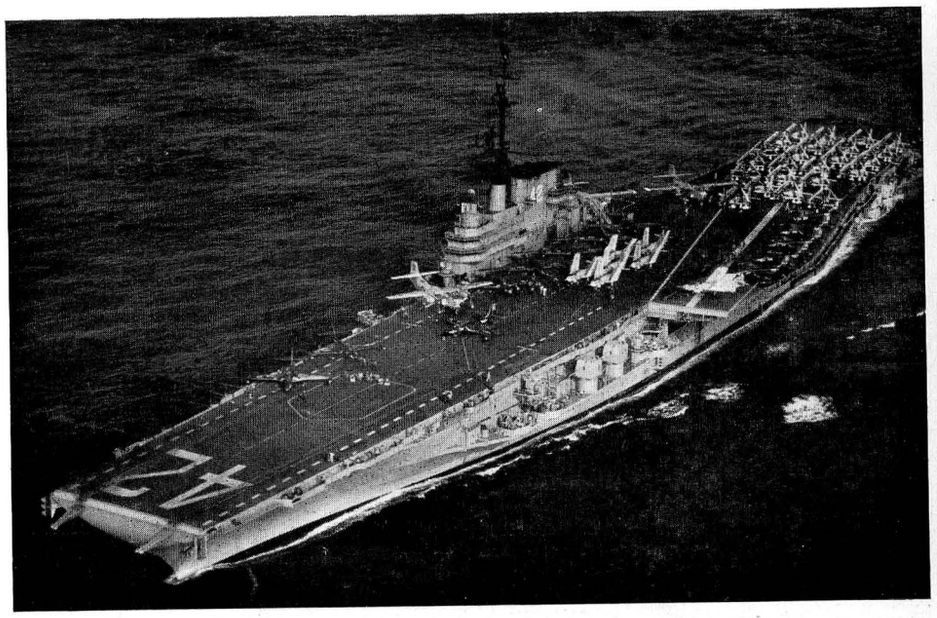


3 "Midway" Class

CORAL SEA
FRANKLIN D. ROOSEVELT (*ex-Coral Sea*)
MIDWAY

Displacement:	51,000 tons *standard* (*Midway* 62,000 tons *full load*, *Franklin D. Roosevelt* 62,674 tons *full load*, *Coral Sea* 63,400 tons after conversion)
Dimensions:	Length: 974 (*o.a.*) feet. Beam (*hull*): 113 feet (*Coral Sea* 121 (*w.l.*) feet). Width: 210 (*max.*) feet (*Coral Sea* 220 (*o.a.*) with angled deck). Draught: 32½ feet.
Guns:	10—5 inch, 54 cal.; 22—3 inch, 50 cal. (3 inch removed from *Coral Sea*).
Guided Missiles:	"Regulus" in *Franklin D. Roosevelt*
Aircraft:	137 (including large bombers of latest type)
Catapults:	3 steam
Machinery:	Geared turbines. 4 shafts. S.H.P.: 212,000 = 33 kts.
Boilers:	12 Babcock & Wilcox
Complement:	3,354 officers and men with an air group on board 2,604 without an air group on board Wartime complements are about 20 per cent larger

General Notes
The originally designed displacement of these ships was 45,000 tons. They are the most extensively welded ships in the U.S. Navy, and cost $90,000,000 each. On 6 Sep. 1947 the first carrier-borne guided missile was launched from the flight deck of the *Midway*. On 7 Mar. 1949 a Lockheed P2V (Neptune) long-range bomber able to handle atomic bombs took off with rocket assistance from the *Coral Sea* with a load of 37 tons on a 2,000 mile flight.

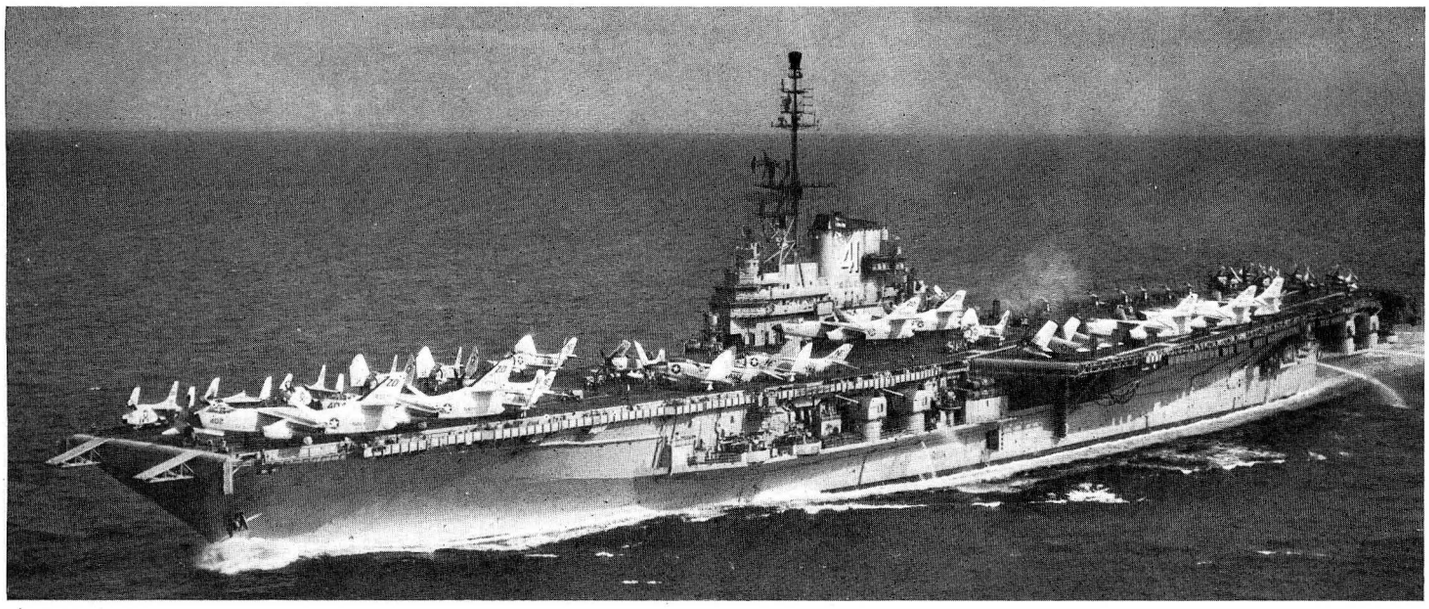


FRANKLIN D. ROOSEVELT (port bow aerial view)

1958, *U.S. Navy, Official*

Attack Aircraft Carriers—*continued*

3 "Midway" Class—*continued*



MIDWAY (operational) after conversion with enclosed bow and angled deck 1959, *United States Navy, Official*

Gunnery Notes

Midway and *Franklin D. Roosevelt* originally had eighteen 5 inch. They subsequently mounted fourteen 5 inch, 54 cal. d.p. and now have only ten, four on the port side and six on the starboard side. They now have twin-3-inch mountings in place of the former quadruple 40 mm. mountings.

Armour Notes

Officially stated that these ships are protected by heavy armour, intricate water-tight compartments and an improved system of damage control. Armoured flight deck is 932 × 113 feet, covered with non-skid surface material; it was strengthened in all 3 ships during 1947-48, to enable heavier aircraft to be handled.

Flight Deck Notes

The angled deck arrangement installed in the "Midway" class aircraft carriers requires only half the arresting gear for normal operations and eliminates crash barriers, releasing considerable topside weight and gallery deck space.

Elevator Notes

The triangular section on the forward end of the forward elevators of these ships (and some modernised "Essex" class) increases the length of the elevators 12 feet along the centreline. The additional length permits easier handling of larger aircraft.

Following modernisation the *Midway* and *Roosevelt* each have two deckedge and one centreline elevator. The *Coral Sea* has three aluminium deck-edge elevators.

Disposition Notes

Coral Sea and *Midway*, Pacific Fleet; *Franklin D. Roosevelt*, Atlantic Fleet.

Appearance Notes

Franklin D. Roosevelt has truncated conical stanchion and pole mast. *Midway* has lattice mast.

Coral Sea differs in her gun layout from other two. See *Gunnery Notes* on previous page.

Modernisation and Conversion Notes

Franklin D. Roosevelt was modernised at Puget Sound Naval Shipyard under the 1954 conversion programme. Now has angled deck, enclosed bow, 3 higher capacity catapults (steam), increased aviation fuel capacity, and broader hull. Remodelling enables her to handle faster and heavier jet aircraft. Conversion completed 6 Apr. 1956 and cost $48,000,000, 53 per cent of ship's original cost.

Modernisation and conversion of *Midway*, including installation of the angled deck, as authorised in the 1954 Fiscal appropriations commenced in Autumn 1955 at Puget Sound Naval Shipyard and was completed on 30 Sep. 1957 when she was recommissioned for duty with the Pacific Fleet.

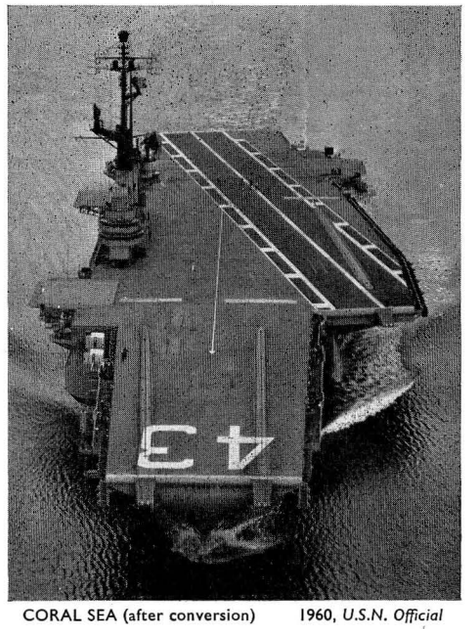
Modernisation and conversion of *Coral Sea* was authorised in the Fiscal 1957 appropriations. Conversion at Puget Sound Naval Shipyard commenced in Apr. 1957. The forward centreline elevator has been replaced by a deck-edge elevator on the starboard side forward, while the port side elevator originally installed has been moved aft. Arresting gear and barricades have been relocated, and extensive changes made in the hangar bay area. The beam at the waterline has been increased by approximately 8 feet. This ship was designed during the Second Wolrd War on the basis of experience with the "Essex" class, but was completed too late to see service. This is the first major conversion she has had, and consists of a completed modernisation, including angled deck, hurricane bow and replacement of two hydraulic catapults by three steam catapults. She was recommissioned on 25 Jan. 1960.

Notes to Drawing

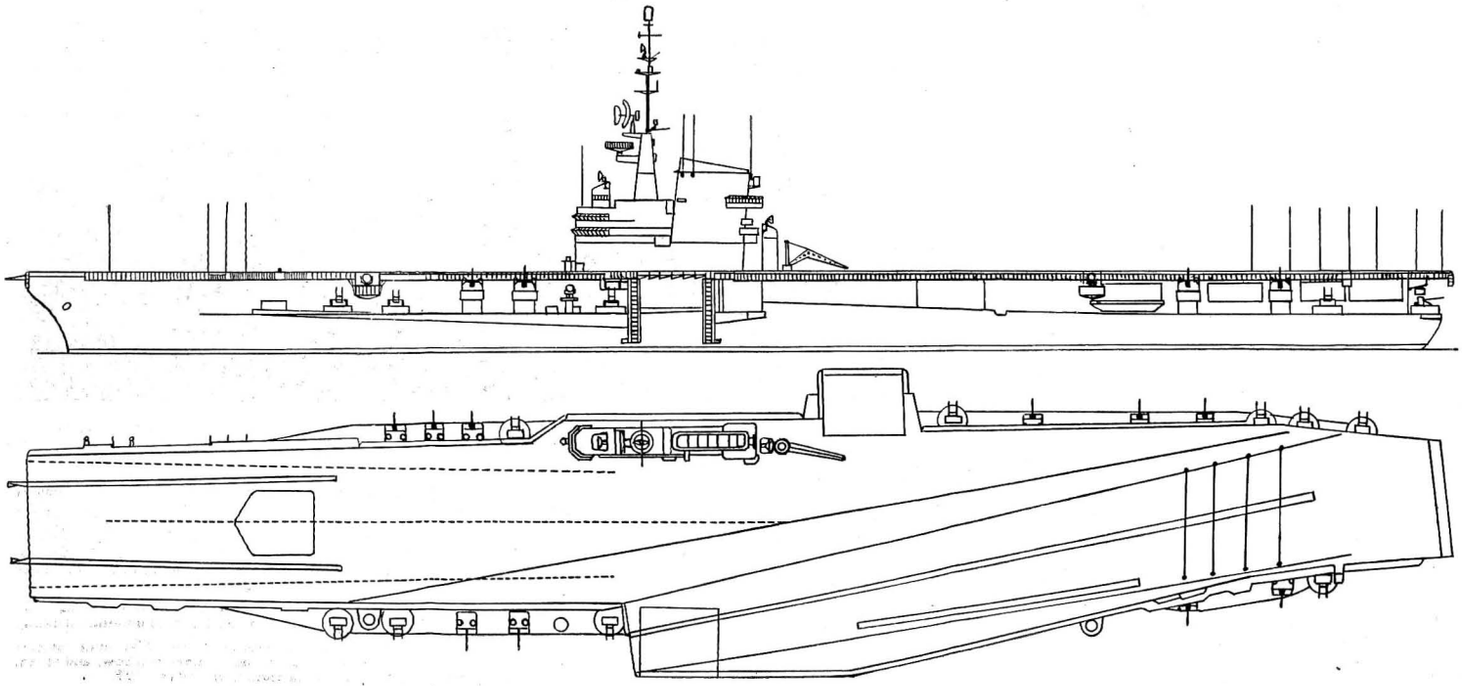
Port elevation and plan. Drawn in 1957.

Scale : 128 feet = 1 inch.

This represents *Franklin D. Roosevelt* See *Modernisation and Conversion Notes*, and *Appearance Notes*.



CORAL SEA (after conversion) 1960, *U.S.N. Official*



Attack Aircraft Carriers—*continued*

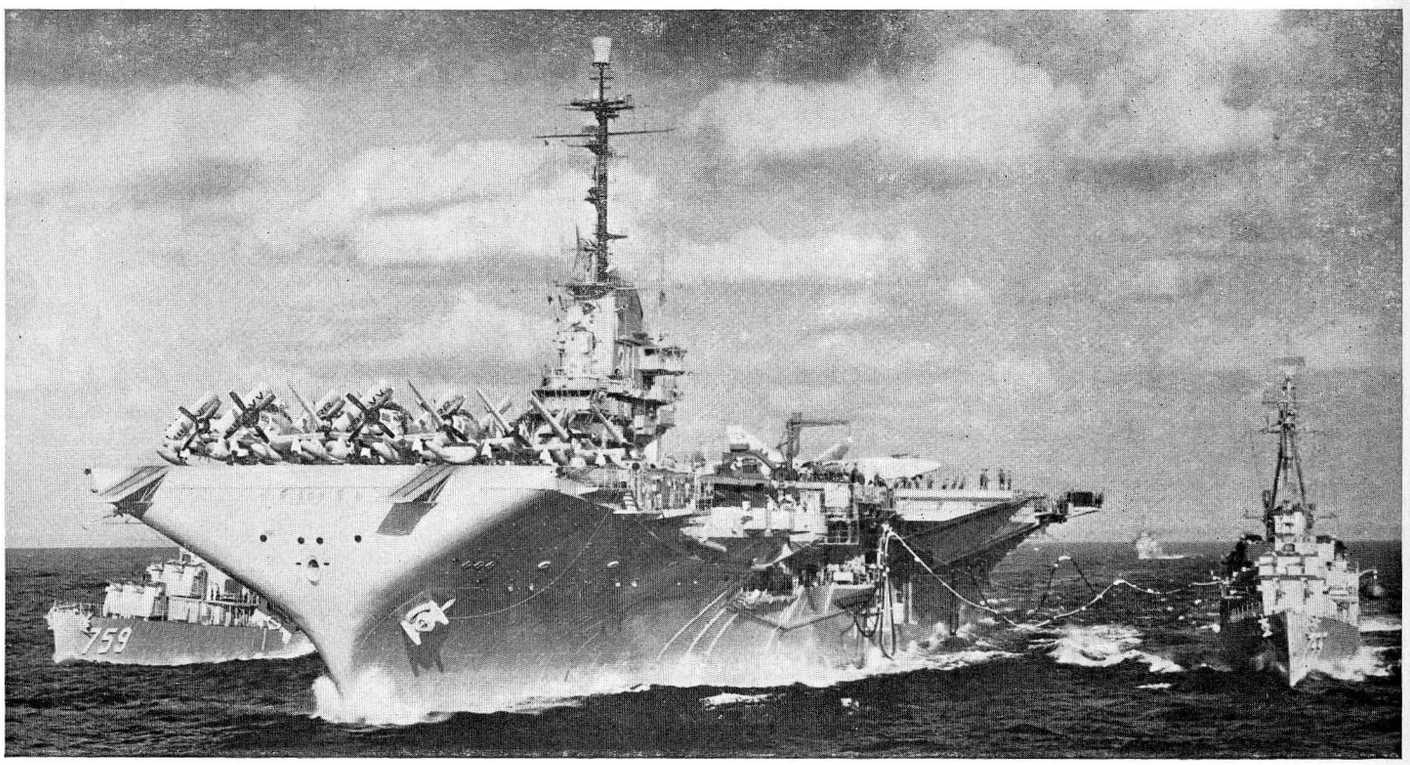
3 "Midway" Class—*continued*

Photograph Notes
Starboard bow aerial view and port quarter aerial view of *Franklin D. Roosevelt* after conversion with angle deck and enclosed bow, port bow view of *Midway* before conversion, and port near broadside view of *Coral Sea* before conversion, in the 1957-58 edition. Starboard quarter aerial view of *Midway* in the 1958-59 and 1959-60 editions, starboard quarter surface view of *Franklin D. Roosevelt* in the 1959-60 edition, and counter view of *Franklin D. Roosevelt*, showing flight deck transom and sponsons, on page 476 (Addenda) of the 1959-60 edition.

Classification Notes
All originally designated as CVB's but were reclassified as Attack Aircraft Carriers, CVA, in Oct. 1952

Class Notes
Three more ships of this class projected (CVB 44, 56, 57) were cancelled in 1945.

No.	*Name*	*Builders*	*Machinery*	*Laid down*	*Launched*	*Completed*
CVA 43	*Coral Sea*	Newport News Co.	Westinghouse	10 July 1944	2 Apr. 1946	1 Oct. 1947
CVA 42	*Franklin D. Roosevelt*	New York Navy Yard	General Electric	1 Dec. 1943	29 Apr. 1945	27 Oct. 1945
CVA 41	*Midway*	Newport News Co.	Westinghouse	27 Oct. 1943	20 Mar. 1945	11 Sep. 1945



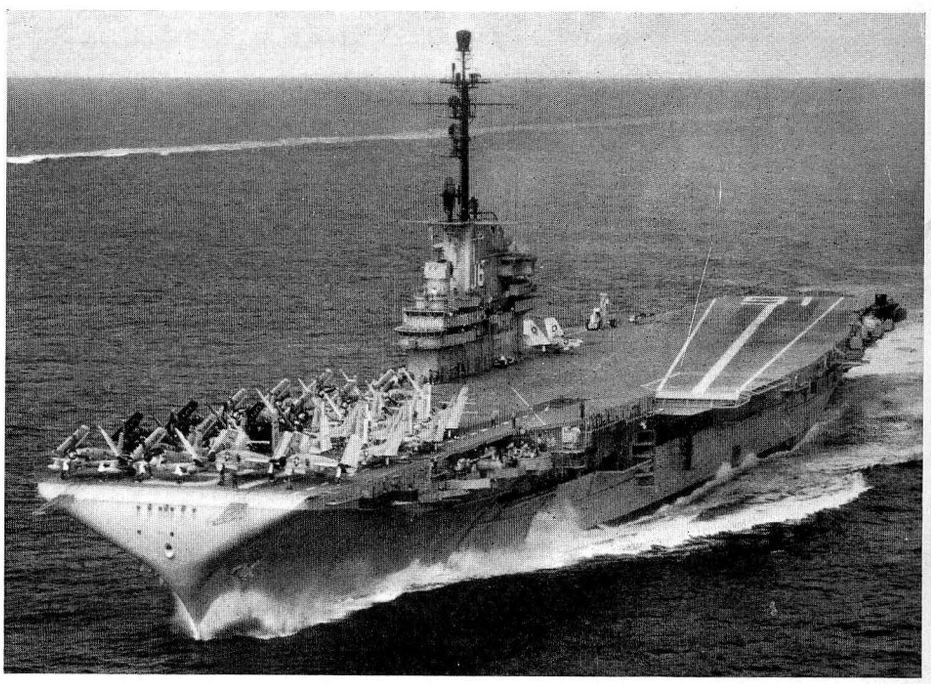
BON HOMME RICHARD (port bow view at hangar deck level). Refuelling two destroyers. 1958, *U.S. Navy, Official*

7 "Oriskany" Type
(Improved "Essex" Class)

BON HOMME RICHARD
HANCOCK (ex-*Ticonderoga*)
INTREPID
LEXINGTON (ex-*Cabot*)
ORISKANY
SHANGRI-LA
TICONDERGOA (ex-*Hancock*)

Displacement:	33,100 tons *standard* (40,800 to 42,600 tons *full load*). (Displacement of 27c conversions: 41,434 tons *full load*).
Dimensions:	Length: 786 (*pp.*), 840 (*w.l.*), 898½ (*o.a.*) feet. *Oriskany* 904 feet (*o.a.*). *Bon Homme Richard, Lexington, Shangri-La* 889 (*o.a.*) feet. Flight deck: 876 feet. Hangar: 720 feet. Beam: 101 to 103 feet (*hull*), 129 feet (over sponsons). Width: Hangar 93 feet (*max.*); Ship 192 feet (*extreme*). Draught: 31 (*max.*) feet. Dimensions of 27c conversions: Length: 880 feet. Width: 192 feet (*extreme*)
Guns:	8—5 inch, 38 cal.; 28—3 inch, 50 cal. in twin mounts
Guided Missiles:	"Regulus" in *Bon Homme Richard, Hancock, Lexington* and *Shangri-La*
Aircraft:	85 to 100
Catapults:	2 steam (*Bon Homme Richard, Hancock, Intrepid, Lexington, Shangri-La, Ticonderoga*)
Armour:	3" sides, 3" decks
Machinery:	Geared turbines. 4 shafts S.H.P.: 150,000=33 kts.
Boilers:	8 Babcock & Wilcox
Complement:	2,260 officers and men with an air group on board 1,510 without an air group on board. Wartime complements are about 20 per cent larger

General Notes
Oriskany was the first of a new type to which modified "Essex" class carriers subsequently conformed; her construction was delayed with a view to recasting of plans and she was completed to a modified design with a smaller island, heavier decks and handling gear to operate bigger aircraft, larger lifts, more powerful catapults, a stronger runway and increased stowage for petrol as compared with "Essex" class. Bulges offset the extra weight thus added. For builders and construction dates of above modernised ships of the "Essex" class see next page. *Hancock* completed catapult conversion Jan. 1954; first to have new steam catapults and starboard deck-edge elevator; first of 27c conversions, has one-foot wider blister than 27a conversions. Recent catapult conversions completed as follows:—*Intrepid* Apr. 1954, *Ticonderoga* Apr. 1954. Angled deck and enclosed bow conversion completed in *Bennington* 1 Apr. 1955, *Essex* 9 Mar. 1956, *Hornet* 15 Aug. 1956, *Kearsarge* 31 Jan. 1957, *Oriskany* 31 Mar. 1959, *Randolph* 12 Feb. 1956, *Wasp* 1 Dec. 1955, and *Yorktown* 14 Oct. 1955. Angled deck, steam catapult and enclosed bow conversion completed in *Shangri-La* 1 Feb. 1955, *Lexington* 1 Sep. 1955, *Bon Homme Richard* 1 Nov. 1955, *Hancock* 15 Nov. 1956, *Ticonderoga* 1 Apr. 1957, *Intrepid* 2 May 1957. Several, including *Hancock* and *Randolph*, fitted to launch "Regulus" guided missiles. *Shangri-La* has mirror sight landing aid system. *Kearsarge* is equipped with all aluminium surface to flight deck and aluminium elevators; she is the first aircraft carrier so fitted.



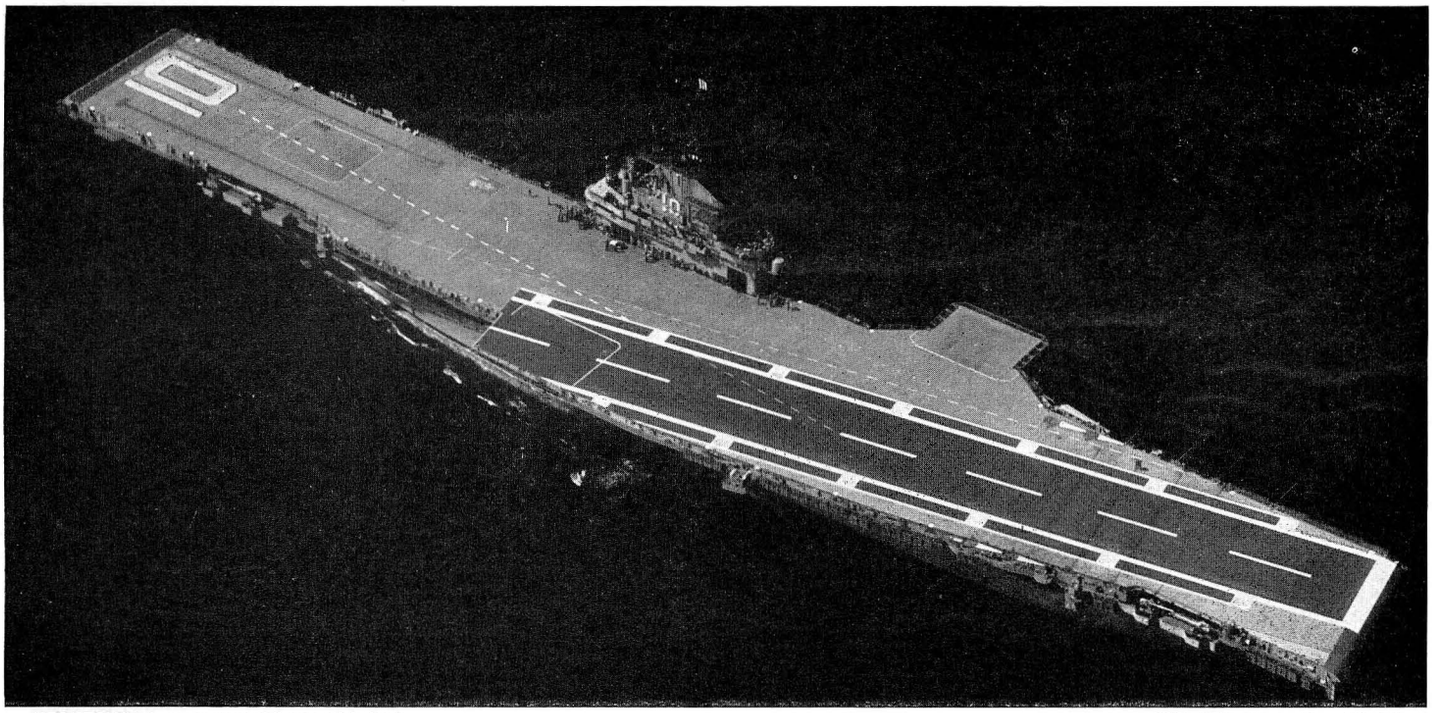
LEXINGTON (showing hurricane bow, forward aircraft park, and angled deck) 1959, *U.S. Navy, Official*

New Conversion Notes
Oriskany has undergone very extensive conversion and modernisation amounting to reconstruction at San Francisco including the following improvements: Angled deck; Hurricane (enclosed) bow; Arresting gear able to handle larger and heavier aircraft; Two high capacity steam catapults; Increased aircraft elevator capacity and size; Modern special weapon spaces; Air-to-air missile stowage and facilities; Increased aviation fuel stowage for jet fuel.

Flight deck of increased strength to permit landing A3D type aircraft. One third of the deck is of aluminium planking.

She is the last of the Second World War built aircraft carriers to receive the angled deck, hurricane bow, and steam catapults. She recommissioned on 7 Mar. 1959.

Aircraft Carriers—*continued*



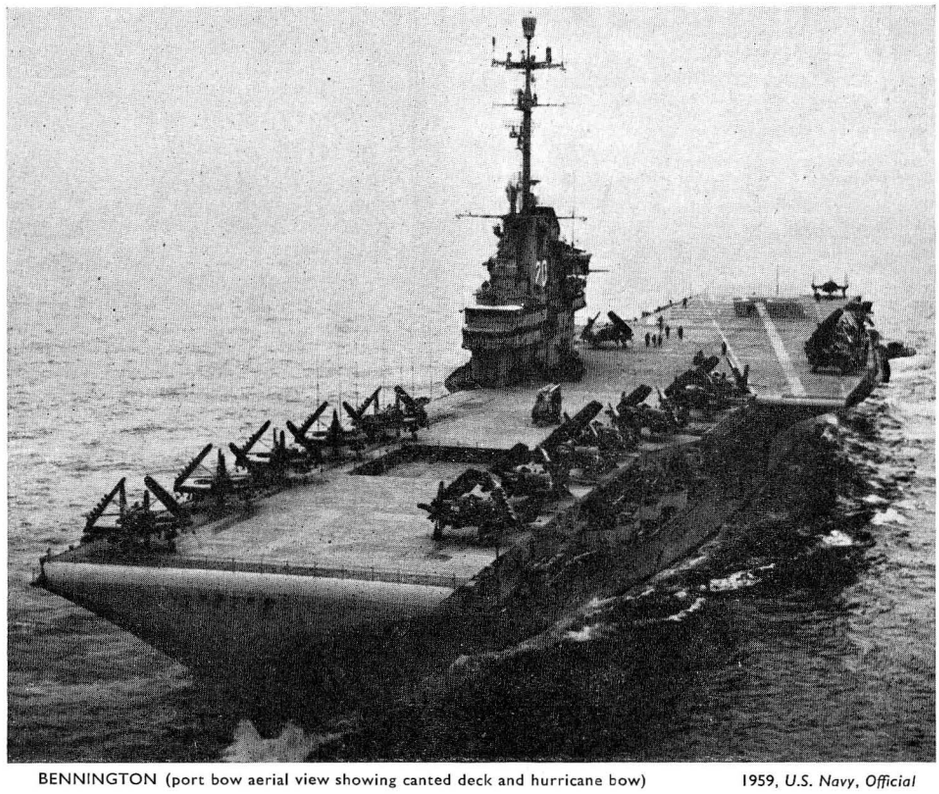
YORKTOWN (port quarter oblique aerial view) 1959, *United States Navy, Official*

Support Aircraft Carriers (CVS)
Amphibious Assault Ships (LPH)
Auxiliary Aircraft Transports (AVT)

17 "Essex" Class

ANTIETAM
BENNINGTON
BOXER
BUNKER HILL
ESSEX
FRANKLIN
HORNET (ex-*Kearsarge*)
KEARSARGE
LAKE CHAMPLAIN
LEYTE (ex-*Crown Point*)
PHILIPPINE SEA (ex-*Wright*)
PRINCETON
RANDOLPH
TARAWA
VALLEY FORGE
WASP (ex-*Oriskany*)
YORKTOWN (ex-*Bon Homme Richard*)

Displacement:	27,100 tons designed, 30,800 *standard* (38,500 tons *full load*)
Dimensions:	Length: 786 (*pp.*), 840 (*w.l.*), 888; (*o.a.*) feet. *Franklin* is 878 (*o.a.*) feet: *Bunker Hill*, 879 (*o.a.*) feet, *Bennington*, *Tarawa* and *Valley Forge*, 889 (*o.a.*) feet, *Hornet*, *Lake Champlain* and *Wasp*, 899 (*o.a.*) feet. Flight deck: 876 feet. Hangar: 720 feet Beam: 93 feet, *Hornet*, *Lake Champlain*, *Wasp* 101 feet (hull). 113 feet (over sponsons). Width: Hangar 93 feet (*max.*), Ship 136 feet (*extreme*). *Wasp* 154 feet, *Antietam* 154 feet (including angled deck). Draught: 30⅔ (*max.*) feet
Guns	12—5 inch, 38 cal , 44 to 72—40 mm. AA., 52—20 mm. (quadruple mounts). Some active ships have 3-inch guns in place of 40 mm. mounts., 36 to 52—20 mm. (twin mounts (see *Gunnery Notes*)
Guided Missiles:	"Regulus" in *Bennington*, *Lake Champlain* and *Randolph*
Aircraft:	95 to 100 (107 have been carried by close stowage), 50 in CVS 32 36, 45, 47 (see notes). *Boxer* and *Princeton* carry 30 to 40 HR2S helicopters
Armour:	3"—2" side amidships, 3" hangar deck, 1½" flight deck, 1½" upper deck
Machinery:	Westinghouse geared turbines. 4 shafts. S.H.P.: 150,000 = 33 kts.
Boilers:	8 Babcock & Wilcox
Complement:	1,300 (reduced from 2,100 (ship's company plus air group personnel) *peacetime*; 2,800 *wartime*)



BENNINGTON (port bow aerial view showing canted deck and hurricane bow) 1959, *U.S. Navy, Official*

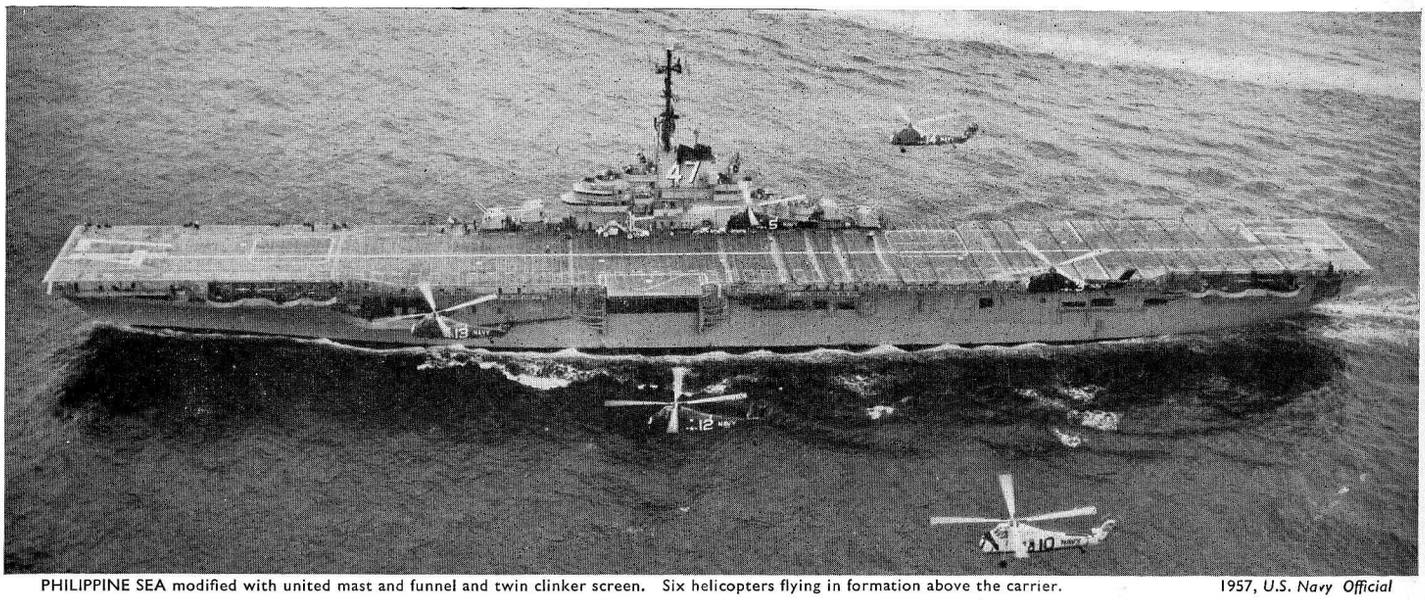
General Notes

First of class ordered 1940. *Essex* was built in 20 months, *Yorktown* in 17½ months. Later ships of this class of improved design, with stronger flight decks, and were more thoroughly sub-divided. *Princeton* launched the new guided missile "Regulus" at sea. The weapon can be installed on a variety of naval ships at low cost and used multi-operationally. 14 units of this class have been or are being modernised on similar lines to *Oriskany*, completed in modernised state (see preceding page). CVSs are undergoing conversion for anti-submarine warfare. Conversion of *Leyte* was completed with aircraft complement reduced to 50 and operating crew to 1,300 (half previous recent complement). *Antietam* replaced *Saipan* as training ship. As Amphibious Assault Ships *Boxer* (Atlantic Fleet) and *Princeton* (Pacific Fleet) carry 30 HR2S helicopters and a Marine detachment of 10 officers and 323 men, and have accommodation for 1,650 troops, but no structural alterations were made.

Engineering Notes

In Nov., 1945, *Lake Champlain* made Atlantic crossing from Gibraltar to Newport News in 4 days, 8 hours, 51 minutes, an average speed of 32·048 kts. *Philippine Sea* made Pacific crossing from Yokohama to San Francisco in 7 days, 13 hours, an average speed of 25·2 kts.

No.*	Name	Builders	Laid down	Launched	Completed
CVS 9	*Essex*	Newport News S.B. & D.D. Co.	28 Apr. 1941	31 July 1942	31 Dec. 1942
CVS 10	*Yorktown*		1 Dec. 1941	21 Jan. 1943	15 May 1944
CVA 11	*Intrepid*		1 Dec. 1941	26 Apr. 1943	16 Aug. 1943
CVS 12	*Hornet*		3 Aug. 1942	29 Aug. 1943	29 Nov. 1943
AVT 8 (ex-CVS 13)	*Franklin*		7 Dec. 1942	14 Oct. 1943	31 Jan. 1944
CVA 15	*Ticonderoga*		1 Feb. 1943	7 Feb. 1944	10 Oct. 1944
CVS 15	*Randolph*		10 May 1943	28 June 1944	9 Oct. 1944
CVA 16	*Lexington*	Bethlehem Steel Co., Quincy	15 July 1941	26 Sep. 1942	17 Mar. 1943
AVT 9 (ex-CVS 17)	*Bunker Hill*		15 Sep. 1941	7 Dec. 1942	24 May 1943
CVS 18	*Wasp*		18 Mar. 1942	17 Aug. 1943	24 Nov. 1943
CVA 19	*Hancock*		26 Jan. 1943	24 Jan. 1944	15 Apr. 1944
CVS 20	*Bennington*	New York Navy Yard	15 Dec. 1942	26 Feb. 1944	6 Aug. 1944
LPH 4 (ex-CVS 21)	*Boxer*	Newport News Co.	13 Sep. 1943	14 Dec. 1944	16 Apr. 1945
CVA 31	*B. H. Richard*	New York Navy Yard	1 Feb. 1943	29 Apr. 1944	26 Nov. 1944
AVT 10 (ex-CVS 32)	*Leyte*	Newport News Co.	21 Feb. 1944	23 Aug. 1945	11 Apr. 1946
CVS 33	*Kearsarge*	New York Navy Yard	1 Mar. 1944	5 May 1945	2 Mar. 1946
CVA 34	*Oriskany*	do.	1 May 1944	13 Oct. 1945	25 Sep. 1950
CVS 36	*Antietam*	Philadelphia Navy Yard	15 Mar. 1943	20 Aug. 1944	28 Jan. 1945
LPH 5 (ex-CVS 37)	*Princeton*	do.	14 Sep. 1943	8 July 1945	18 Nov. 1945
CVA 38	*Shangri-La*	Norfolk Navy Yard	15 Jan. 1943	24 Feb. 1944	15 Sep. 1944
CVS 39	*Lake Champlain*	do.	15 Mar. 1943	2 Nov. 1944	3 June 1945
CVS 40	*Tarawa*	do.	1 Mar. 1944	12 May 1945	8 Dec. 1945
CVS 45	*Valley Forge*	Philadelphia Navy Yard	7 Sep. 1944	18 Nov. 1945	3 Nov. 1946
AVT 11 (ex-CVS 47)	*Philippine Sea*	Bethlehem Co., Quincy	19 Aug. 1944	5 Sep. 1945	11 May 1946



PHILIPPINE SEA modified with united mast and funnel and twin clinker screen. Six helicopters flying in formation above the carrier. 1957, *U.S. Navy Official*

17 " Essex " Class—*continued*

Gunnery Notes

The number of 5-inch varies considerably. *Randolph* has only 7—5 inch. *Yorktown* appears to have no 5 inch guns on the starboard side aft. *Antietam* has a much reduced armament. The 3 inch stern sponsons and guns and some broadside 3 inch mountings and sponsons have been removed from *Bennington* and other ships. It is reported that such 3-inch guns will be removed from all the carriers before long to further reduce topside weight.

Recent Conversion Notes

Boxer and *Princeton* are due for " FRAM " conversion in the Fiscal Years 1962 and 1961, respectively.

Wasp has been converted to angled deck (first modernised carrier to get CVS status—*Antietam* has an earlier version of the angled deck, the first experimental angled deck installation) and *Hornet* and *Yorktown* have been converted to angled deck.

The island superstructure of the *Philippine Sea* has been modified, funnel and mast having been united, with twin clinker screen on the funnel. *Princeton* and *Leyte* have been similarly modified and other CVS will also be so fitted. *Tarawa* has not yet been altered.

Boxer, Leyte (decommissioned May 1959), *Philippine Sea* (decommissioned 1959), *Princeton, Tarawa* and *Valley Forge* (decommissioned in 1960)—also *Antietam* (decommissioned in 1960 and replaced as training carrier by *Shangri-La*), apart from her angled deck—have undergone no major conversions.

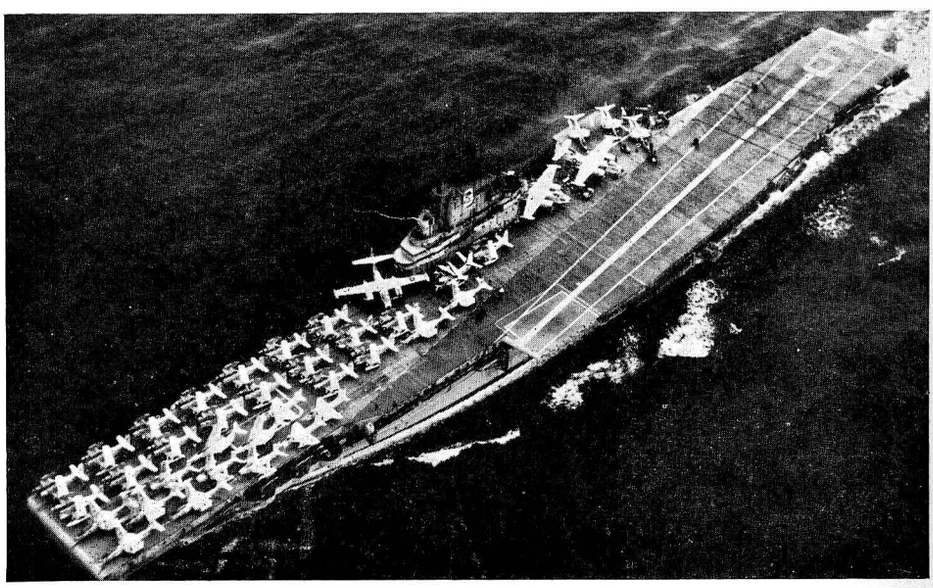
Reclassification Notes

All above ships originally designated CV, were redesignated CVA (Attack Aircraft Carriers) in Oct. 1952, but *Antietam, Bunker Hill, Franklin* and *Leyte* were again redesignated from CVA to CVS (ASW Support Aircraft Carriers) in July 1953; *Princeton* and *Valley Forge* Jan. 1954; *Tarawa* 10 Jan. 1955; *Philippine Sea* 15 Nov. 1955; *Boxer* 1 Feb. 1956.

Lake Champlain was reclassified as CVS on 1 Aug. 1957. *Wasp* was reclassified as CVS on 1 Nov. 1956. *Yorktown* was reclassified as CVS on 1 Sep. 1957. *Horne* was reclassified as CVS on 27 June 1958. *Kearsarge* and *Randolph* were reclassified as CVS on 1 Oct. 1958 and 31 Mar. 1959, respectively. *Boxer* and *Princeton* were reclassified as LPH on 30 Jan. 1959 and 2 Mar. 1959, respectively. *Bunker Hill, Franklin, Leyte* and *Philippine Sea* were reclassified as AVT on 15 May 1959. *Bennington* was reclassified as CVS on 30 June 1959. *Essex* was reclassified as CVS on 8 Mar. 1960.

Marine Complement Notes

In addition to her crew of 1,000, *Princeton* carries a Marine Battalion Landing Team of 1,200 to 1,500 officers and men, plus crews for 40 helicopters.



ESSEX (port bow oblique aerial view, showing aircraft park and angled deck) 1959, *U.S. Navy, Official*

Appearance Notes

Later ships of this class have bow and stern of modified form. Flight deck of *Antietam* angles 8 degrees, 9 minutes to port with arresting gear oriented to the centre line of her angled deck. If this modification is permanently adopted and applied to other ships a future change may be the transfer of the elevator to the starboard side. The angled deck will be incorporated into the design of all new aircraft carriers.

Sponson Notes

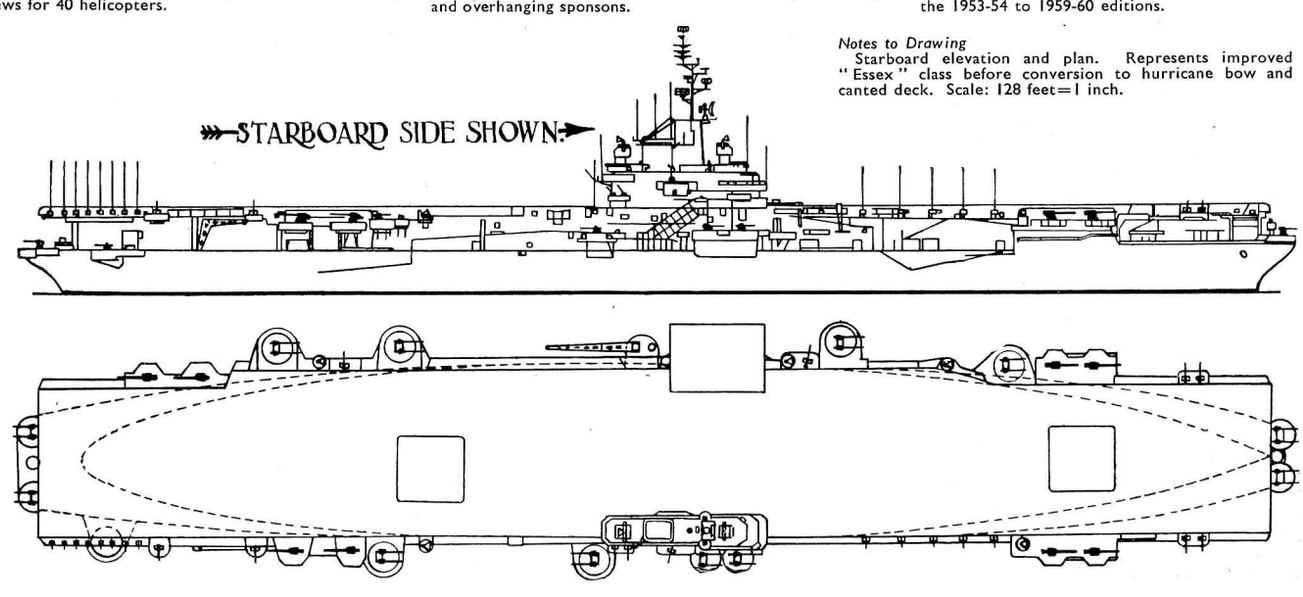
The stern of the *Bennington* and other carriers is smoothed off and streamlined after removal of the 3-inch gun housings and overhanging sponsons.

Photograph Notes

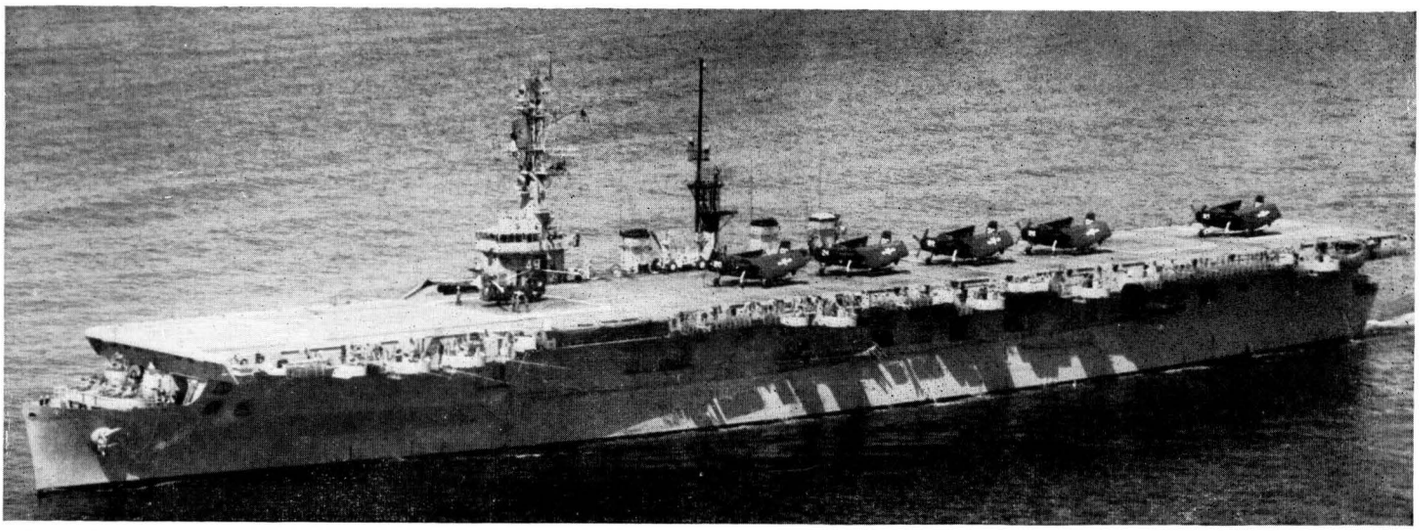
Port broadside aerial view of *Randolph* after conversion and port bow aerial view of *Bon Homme Richard* showing enclosed bow and angle deck, in the 1957-58 edition. Port quarter overhead aerial near-plan view of *Randolph* showing angled deck and aircraft, and port bow oblique aerial view of *Kearsarge* in the 1958-59 and 1959-60 editions. Large starboard broadside view of *Randolph* firing a Regulus guided missile, port bow oblique aerial view of *Valley Forge* and starboard bow surface view of *Tarawa* in the 1957-58 to 1959-60 editions. Port bow overhead aerial view of *Antietam* and starboard broadside surface view of *Wasp* in the 1953-54 to 1959-60 editions.

Notes to Drawing

Starboard elevation and plan. Represents improved " Essex " class before conversion to hurricane bow and canted deck. Scale: 128 feet=1 inch.



Aircraft Carriers—*continued*



WRIGHT

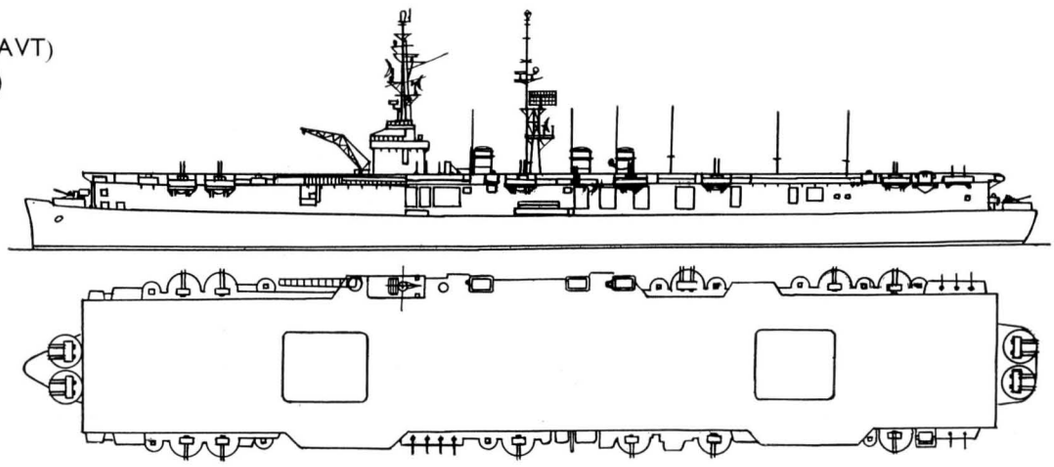
1957, *United States Navy, Official*

Rated as

Auxiliary Aircraft Transports (AVT)

Former Aircraft Carriers (CVL)

2 "Saipan" Class



	SAIPAN	WRIGHT
Name:	*Saipan*	*Wright*
No.:	AVT 6 (ex-CVL 48)	AVT 7 (ex-CVL 49)
Builders:	New York Shipbuilding Corporation, New Jersey	New York Shipbuilding Corporation, New Jersey
Laid down:	10 July 1944	21 Aug. 1944
Launched:	8 July 1945	1 Sep. 1945
Completed:	14 July 1946	9 Feb. 1947

Displacement: 14,500 tons *standard* (20,060 tons *full load*)
Dimensions: Length: 683½ (*o.a.*) feet. Beam: 76¾ feet (*hull*). Width: 115 (extreme) feet. Draught: 28 (*max.*) feet
Guns: 40—40 mm. AA., 32—20 mm. AA.
Aircraft: Over 50
Machinery: General Electric geared turbines. 2 shafts. S.H.P.: 120,000=33 kts.
Boilers: 8 Babcock & Wilcox
Fuel: 2,400 tons
Complement: 1,821 (243 officers and 1,578 men) in wartime. Only 775 of 1,007 enlisted men retained in *Saipan* as training carrier

General Notes

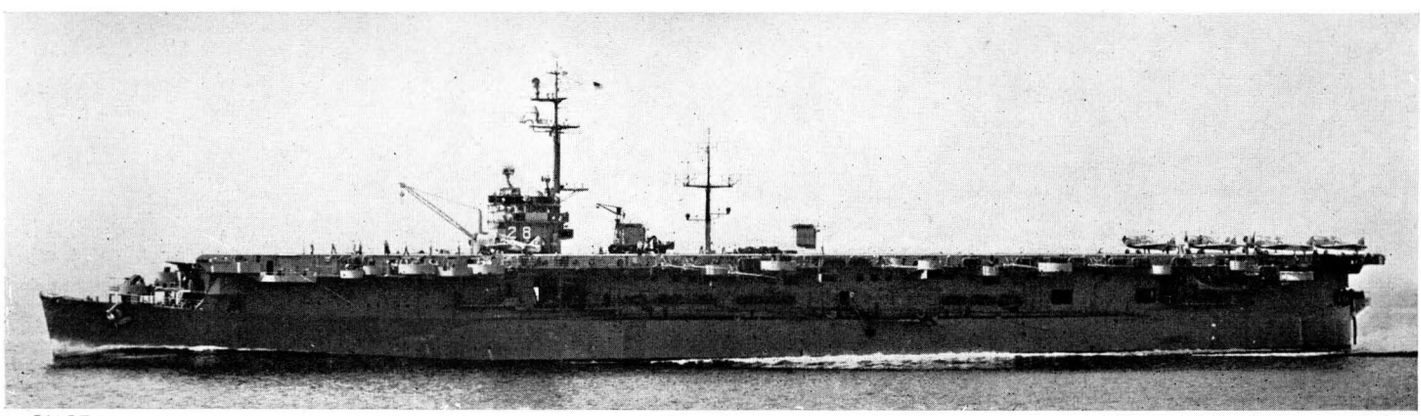
Modifications of the "Baltimore" class heavy cruiser design laid down and built as aircraft carriers (CVLs). The hull below the main (hangar) deck duplicates that of the Camden-built heavy cruisers *Bremerton*, *Fall River*, *Macon* and *Toledo*. *Saipan* was employed as an experimental ship for testing jet propelled aircraft, as well as improvements in radar equipment. She then operated successfully a squadron of McDonnell Phantom fighters. She was the training ship for student pilots at Pensacola until replaced by the *Antietam*. Both are now decommissioned. Both ships had four funnels but have had fore funnel removed (see two photos of *Saipan* and another photo of *Wright* in the 1957-58 edition.)

Notes to Drawing

Both *Saipan* and *Wright* now have only three funnels as shown in port elevation and plan drawn in 1957. Scale: 128 feet=1 inch.

Reclassification Notes

Both ships were reclassified from aircraft carriers (CVL) to aircraft transports (AVT) on 15 May 1959.



CABOT

Added 1957, *United States Navy, Official*

Rated as

Auxiliary Aircraft Transports (AVT)

Former Aircraft Carriers (CVL)

3 "Cabot" Class

CABOT (ex-*Wilmington*) **SAN JACINTO** (ex-*Reprisal*, ex-*Newark*)
MONTEREY (ex-*Dayton*)

Displacement: 11,000 tons *standard* (15,800 tons *full load*)
Dimensions: Length: 600 (*w.l.*), 623 (*o.a.*) feet. Beam: 71½ feet (*hull*). Width: 109 (extreme) feet. Draught: 20 (*mean*) 26 (*max.*) feet
Guns: 16—40 mm. AA., 40—20 mm. AA.
Aircraft: 40 (*Cabot* 26, see notes)
Machinery: General Electric geared turbines 4 shafts. S.H.P.: 100,000=32 kts.
Boilers: 8 Babcock & Wilcox
Complement: 1,109 (159 officers and 950 men) to 1,183 (peace), 1,400 (war)

General Notes

These vessels were all laid down as light cruisers of the "Cleveland" class, described on a later page, but were ordered to be completed as aircraft carriers. *Princeton* (CVL 23 ex-*Tallahasses*), lost in action. *Cabot* was converted to ASW, i.e. modified to enable her to specialise in anti-submarine warfare, and classed as a "Hunter-Killer Carrier" with strengthened flight and hangar decks, large port side catapult, revised magazine arrangements, new electronic gear, corrected stability to counter added top weight, and a maximum of 26 aircraft. She was practically modernised to a new type. All three ships are now decommissioned.

Transfer Notes

Langley was transferred to the French Navy in 1951 under the Mutual Defense Assistance Program. The *Belleau Wood* of this class was transferred to France in Sep. 1953 having been loaned for five years, subsequently extended for five more, but she was returned by France in Sep. 1960.

Gunnery Notes

Were originally designed to include 4—5 inch in armament.

Funnel Notes

Since conversion *Cabot* has had only two of her original four funnels. *Monterey* also now has only two funnels.

Reclassification Notes

All these ships were reclassified from small aircraft carriers (CVL) to aircraft transports (AVT) on 15 May 1959.

Drawing Notes

A port elevation and plan drawn at a scale of 128 feet=1 inch appears in the 1959-60 and earlier editions.

Photograph Notes

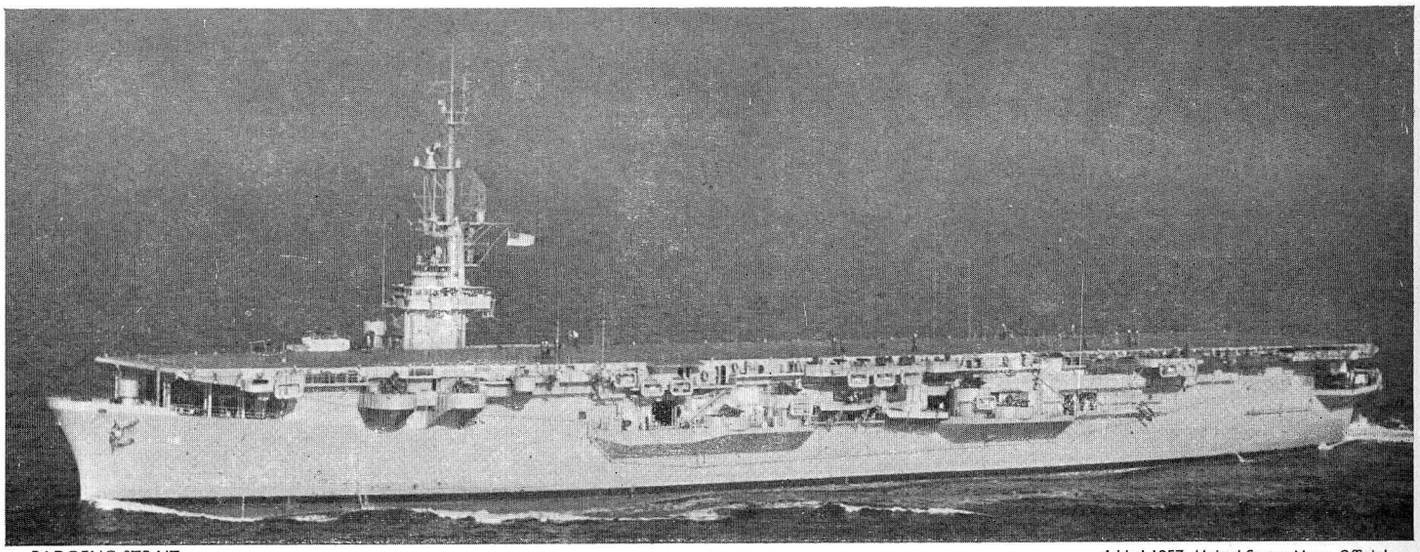
Port bow aerial photo of *Monterey* in the 1957-58 edition.

Recent Disposals

Bataan, AVT 4, was stricken on 1 Sep. 1959 and *Cowpens*, AVT 1, on 1 Nov. 1959. *Independence* CVL 22, was expended in atom bomb and radiological experiments from 1946 to 30 Jan. 1951.

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
AVT 2 (ex-CVL 26)	*Monterey*	New York S.B. Corpn.	29 Dec. 1941	28 Feb. 1943	17 June 1943
AVT 3 (ex-CVL 28)	*Cabot*		16 Aug. 1942	4 Apr. 1943	24 July 1943
AVT 5 (ex-CVL 30	*San Jacinto*		26 Oct. 1942	26 Sep. 1943	15 Dec. 1943

Aircraft Carriers—*continued*



BADOENG STRAIT

Added 1957, United States Navy, Official

Rated as **Aircraft Ferrys** (AKV)

Former Escort Carriers (CVE, CVHE)

13 "Commencement Bay" Class

BADOENG STRAIT (ex-*San Alberto Bay*)
CAPE GLOUCESTER (ex-*Willapa Bay*)
COMMENCEMENT BAY (ex-*St. Joseph's Bay*
GILBERT ISLANDS (ex-*St. Andrew's Bay*)
KULA GULF (ex-*Vermilion Bay*)
POINT CRUZ (ex-*Trocadero Bay*)
RABAUL
RENDOVA (ex-*Mosser Bay*)
SAIDOR (ex-*Saltery Bay*)
SALERNO BAY (ex-*Winjah Bay*)
SIBONEY (ex-*Frosty Bay*)
SICILY (ex-*Sandy Bay*)
TINIAN

Displacement:	11,373 tons *standard* (24,275 tons *full load*)
Dimensions:	Length: 557 (*o.a.*) feet. Beam: 75 feet (*hull*). Width: 105 feet (*extreme*). Draught: 30⅜ (*max.*) feet
Guns:	1—5 inch, 38 cal., 24—40 mm. AA., 24—20 mm. AA., 4 rocket launchers
Aircraft:	34
Machinery:	Geared turbines. 2 shafts. S.H.P.: 16,000 = 19 kts.
Boilers:	2
Complement:	924 (peace). Over 1,000 (war)

General Notes
All built by Todd Pacific Shipyards, Tacoma. Design modelled on that of "Suwanee" class mercantile hull conversions, see 1958-59 and earlier editions. With the decommissioning of *Siboney* and *Badoeng Strait* in 1956-57 all of this class are out of commission, in reserve.

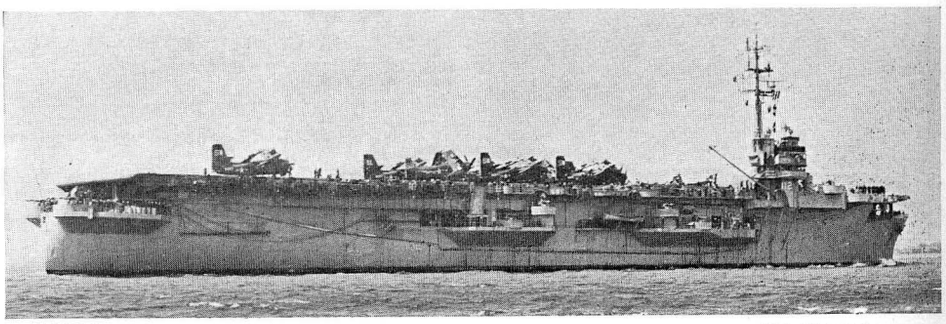
Class Notes
Sixteen more ships of this class, *Bastogne, Eniwetok, Lingayen, Okinawa*, and CVE 128-139, were cancelled in Aug. 1945.

Gunnery Notes
After starboard 5 inch gun was removed from former active units. No. 1 Bofors 40 mm. mounting removed. 12 Oerlikon 20 mm. twin mounts now instead of former total of 30. Four rocket launchers now located amidships, two on each side.

Reclassification Notes
Seven Escort Aircraft Carriers (CVE) of this class were reclassified as Escort Helicopter Aircraft Carriers (CVHE) on 12 June 1955. *Block Island* was reclassified as LPH on 22 Dec. 1957. Her conversion to Helicopter Amphibious Assault Ship under the Fiscal Year 1957 Shipbuilding and Conversion Program was being undertaken at Philadelphia Navy Shipyard and her officially estimated completion date was 30 July 1960. but in 1958 her conversion was cancelled as a measure of economy and she was reclassified as an AKV on 7 May 1959 when all the remaining 18 ships of the class were also reclassified as AKVs.

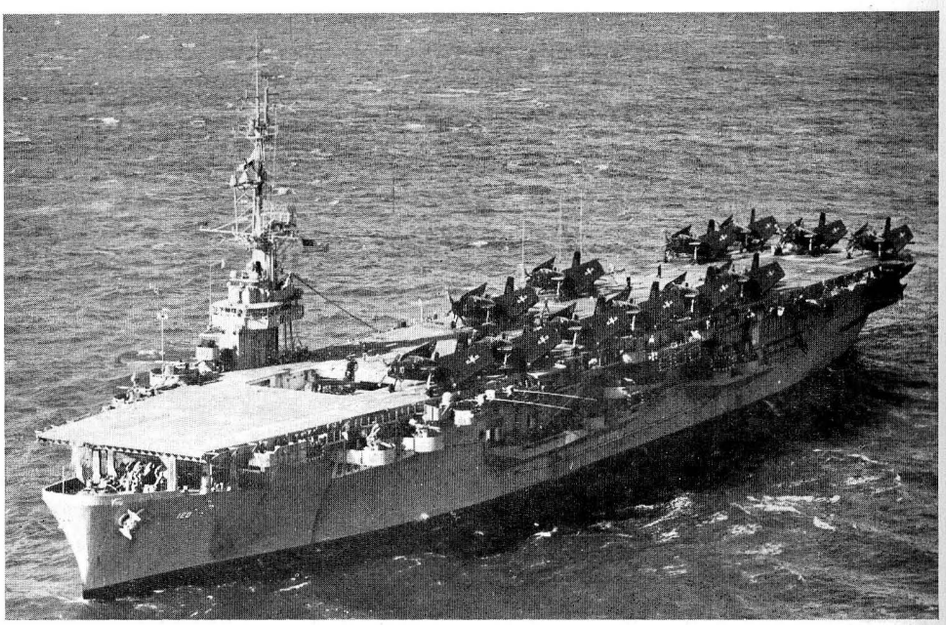
Recent Disposals
Block Island, AKV 38 (ex-LPH 1, ex-CVE 106) was stricken on 1 July 1959, *Mindoro*, AKV 20 (ex-CVE 120) on 1 Dec. 1959, and *Bairoko*, AKV 15 (ex-CVE 115), *Palau*, AKV 22 (ex-CVE 122), *Puget Sound*, AKV 13 (ex-CVHE 113) and *Vella Gulf*, AKV 11 (ex-CVHE 111) in 1960.

The old *Enterprise*, CVS 6, was scrapped in 1958 (see very full Disposal Notes and complete particulars, with photographs and plan elevation drawing, in the 1957-58 and earlier editions). The *Enterprise* Association, which had until 30 Mar. 1958, gave up the campaign to save the *Enterprise* from scrap and preserve her as a memorial, owing to lack of funds. She was sold for breaking up to Lipsett, Inc., Kearny, N.J. on 2 July 1958 for $561,133, and towed to the scrap yard on 21 Aug. 1958.



SIBONEY

1956, *Wright & Logan*

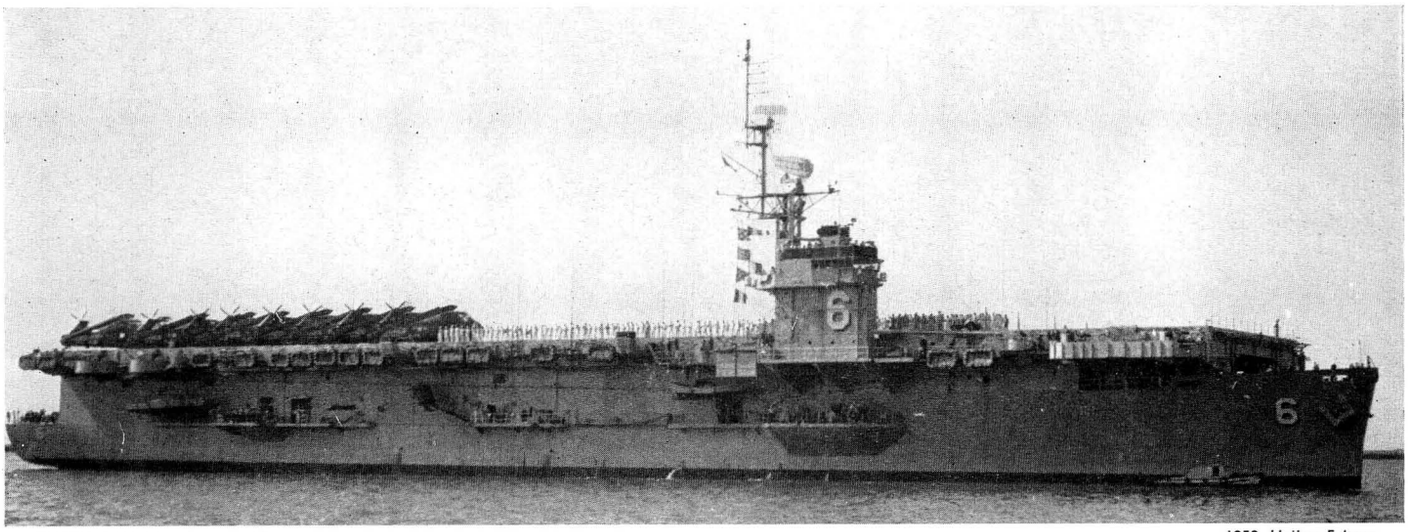


MINDORO

Added 1956, Skyfotos

No.	*Name*	*Laid down*	*Launched*	*Completed*
AKV 37 (ex-CVHE 105)	*Commencement Bay*	23 Sep. 1943	9 May 1944	27 Nov. 1944
AKV 39 (ex-CVE 107)	*Gilbert Islands*	29 Nov. 1943	20 July 1944	5 Feb. 1945
AKV 8 (ex-CVE 108)	*Kula Gulf*	16 Dec. 1943	15 Aug. 1944	12 May 1945
AKV 9 (ex-CVHE 109)	*Cape Gloucester*	10 Jan. 1944	12 Sep. 1944	5 Mar. 1945
AKV 10 (ex-CVE 110)	*Salerno Bay*	7 Feb. 1944	26 Sep. 1944	19 May 1945
AKV 12 (ex-CVE 112)	*Siboney*	1 Apr. 1944	9 Nov. 1944	14 May 1945
AKV 14 (ex-CVE 114)	*Rendova*	15 June 1944	28 Dec. 1944	22 Oct. 1945
AKV 16 (ex-CVE 116)	*Badoeng Strait*	18 Aug. 1944	15 Feb. 1945	14 Nov. 1945
AKV 17 (ex-CVHE 117)	*Saidor*	29 Sep. 1944	17 Mar. 1945	4 Sep. 1945
AKV 18 (ex-CVE 118)	*Sicily*	23 Oct. 1944	14 Apr. 1945	27 Feb. 1946
AKV 19 (ex-CVE 119)	*Point Cruz*	4 Dec. 1944	18 May 1945	16 Oct. 1946
AKV 21 (ex-CVHE 121)	*Rabaul*	29 Jan. 1945	14 July 1945	30 Aug. 1946
AKV 23 (ex-CVHE 123	*Tinian*	20 Mar. 1945	5 Sep. 1945	30 July 1946

Aircraft Carriers—*continued*



THETIS BAY (showing new LPH number) 1959, *Hajime Fukaya*

Rated as **Utility Carriers** (CVU) and **Amphibious Assault Ship** (LPH)
Former Escort Aircraft Carriers (CVE, CVHA)
4 "Anzio" Class

CAPE ESPERANCE (ex-*Tananek Bay*)
THETIS BAY
TRIPOLI (ex-*Didrickson Bay*)
WINDHAM BAY

Displacement:	7,800 tons *standard* (10,400 tons *full load*)
Dimensions:	Length: 487 (*pp.*), 498 (*w.l.*). 512 (*o.a.*) feet. Beam: 65 feet (*hull*). Width: 108 feet (*extreme*). Draught: 19¾ (*max.*) feet
Guns:	1—5 inch, 38 cal., 24—20 mm. AA. (Later ships have 8—40 mm. AA., 24—20 mm. AA.)
Aircraft:	30 (20 to 40 helicopters in *Thetis Bay*)
Machinery:	Skinner Unaflow (reciprocating) engines. 2 shafts. I.H.P.: 11,200 = 19·5 kts.
Boilers:	2
Complement:	643 (peace). Over 800 (war). *Thetis Bay* (complement of 40 officers and 500 men plus accommodation for 1,600 troops) carries 390 troops (capacity over 1,000 marines)

General Notes

Designed from the start as aircraft carriers, all these ships were built by the Henry J. Kaiser Co., Inc., at Vancouver, Wash., or by the Oregon S. B. Corpn. at Portland, Oregon. They are of an improved design, differing from the converted ships of the "Bogue" class, which were found difficult to land upon in light airs.

Conversion Notes

The Fiscal 1955 program authorised the conversion of one CVE to an Assault Helicopter Transport for use by the Marine Corps in amphibious landings. Accordingly CVE 90 *Thetis Bay*, entered San Francisco Naval Shipyard in June 1955 for conversion and was commissioned on 20 July 1956. Redesignated CVHA 1 on 25 Feb. 1955. She will not only provide coverage for helicopters but will also take care of the assault troops. She carries at least 15 helicopters. Conversion included elimination of catapults and arrester gear, enlarging and resiting of elevators and accommodation for marine troops. The conversion of another CVE to CVHA, requested in the Fiscal 1957 appropriations, was subseuqently cancelled.

Seaplane Notes

One escort carrier was to have been converted into a seaplane carrier (tender) in the Fiscal Year 1958 appropriations, but although requested by the Navy, Congress did not provide funds for such a conversion.

Reclassification Notes

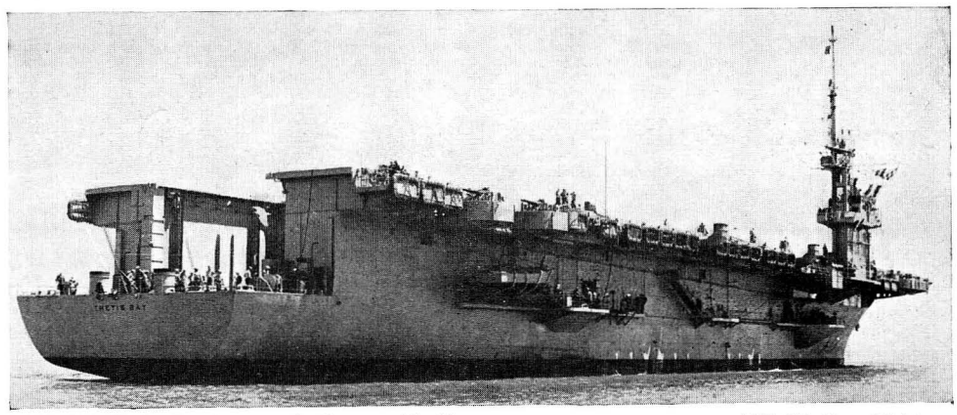
Of the 34 former Escort Aircraft Carriers (CVE) of the "Anzio" Class, 10 were reclassified as Escort Helicopter Aircraft Carriers (CVHE) and 23 were reclassified as Utility Aircraft Carriers (CVU) on 12 June 1955. The remaining vessel had been reclassified as an Assault Helicopter Aircraft Carrier previously (see *Conversion Notes*). Thirteen surviving ships of the class were reclassified as AKV on 7 May 1959. The *Thetis Bay* was reclassified as LPH 6 on 28 May 1959. The remaining 17 ships were stricken from the list, see *Recent Disposals*.

Photograph Notes

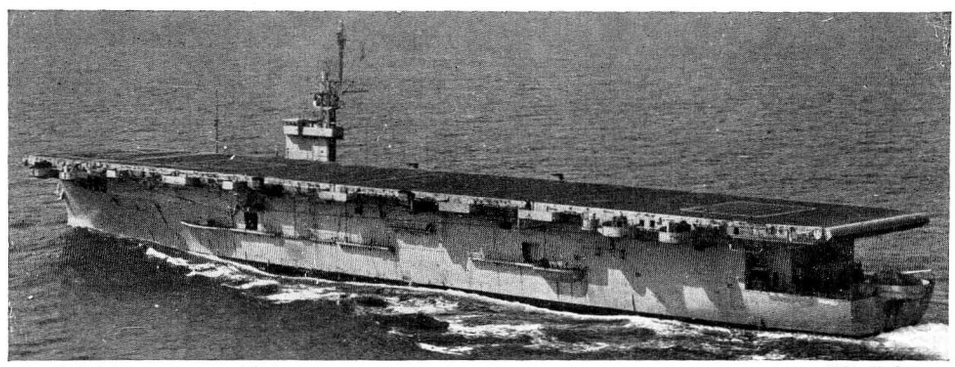
Large starboard broadside view of *Thetis Bay* after conversion, starboard bow aeriel view, and port bow overhead serial view, in the 1957-58 edition.

Large starboard broadside surface view of *Corrgidor* in the 1957-58 to 1959-60 editions, and starboard quarter oblique aerial view of *Corrgidor* in the 1956-57 to 1959-60 editions.

Second World War losses: *Bismarck Sea* (CVE 95), *Gambier Bay* (73), *Liscombe Bay* (56), *Ommaney Bay* (79), *St. Lo* (63). Sold or scrapped since: *Admiralty Islands*, *Attu*, *Casablanca*, *Kalinin Bay*, *Kitkun Bay*, *Makin Island*, *Roi*, *Salamaua*, *Solomons*, *Tulagi*, *Wake Island*.



THETIS BAY (starboard quarter showing open lift aft) 1957, *U.S. Navy, Official*



TRIPOLI (port quarter aerial view) 1953, *Skyfotos*

Disposition Notes

* *Cape Esperance*, *Tripoli* and *Windham Bay* were assigned to Military Sea Transportation Service, and served as Aircraft Ferry Ships. All are now out of commission, in reserve, except *Thetis Bay*, LPH 6. *Sitkoh Bay* decommissioned and laid up in the Reserve Fleet in Sep. 1954. *Tripoli* and *Windham Bay* may be stricken from the "List of Naval Vessels" in the near future.

Recent Disposals

Seventeen sister ships of this class were scrapped or stricken from the Navy List in 1959, namely: *Anzio*, *Corregidor*, *Fanshaw Bay*, *Guadacanal*, *Kasaan Bay*, *Makassar Strait*, *Manila Bay*, *Mission Bay*, *Munda*, *Natoma Bay*, *Petrof Bay*, *Saginaw Bay*, *Sargent Bay*, *Shamrock Bay*, *Shipley Bay*, *Steamer Bay* and *White Plains*. (*Makassar Strait* was to have been sunk as a target off Pt. Mugu in Feb. 1959, but this is postponed until 1961.).

Thirteen more were stricken:—*Hoggatt Bay*, AKV 25 (ex-CVHE 75) on 1 Sep. 1959, *Kadashan Bay*, AKV 26 (ex-CVU 76) on 1 Aug. 1959, *Lunga Point* AKV 32 (ex-CVU 94) in 1960, *Marcus Island*, AKV 27 (ex-CVHE 77) on 1 Sep. 1959 *Savo Island*, AKV 28 (ex-CVHE 78) on 1 Sep. 1959, *Nehenta Bay*, AKV 24 (ex-CVU 74) on 1 Aug. 1959, *Rudyerd Bay*, AKV 29 (ex-CVU 81) on 1 Aug. 1959, and *Takanis Bay*, AKV 31 (ex-CVU 89) on 1 Aug. 1959. *Sitkoh Bay*, AKV 30 (ex-CVU 86), *Hollandia*, AKV 33 (ex-CVU 97), *Kwajalein*, AKV 34 (ex-CVU 98), *Bougainville*, AKV 35 (ex-CVU 100), and *Matanikau*, AKV 36 (ex-CVHE 101) were stricken at the end of 1960.

No.	*Name*	*Laid down*	*Launched*	*Completed*
T-CVU 64*	*Tripoli*	1 Feb. 1943	2 Sep. 1943	31 Oct. 1943
T-CVU 88*	*Cape Esperance*	11 Dec. 1943	3 Mar. 1944	9 Apr. 1944
LPH 6 (ex-CVHA 1, ex-CVE 90)	*Thetis Bay*	22 Dec. 1943	16 Mar. 1944	21 Apr. 1944
T-CVU 92*	*Windham Bay*	5 Jan. 1944	29 Mar. 1944	3 May 1944

Aircraft Carriers—*continued*



CROATAN

Added 1960, *United States Navy, Official*

Rated as **Aircraft Ferrys** (AKV)

Former Escort Aircraft Carriers (CVE)

4 "Bogue" Class

BRETON **CORE**
CARD **CROATAN**

Displacement:	9,800 tons *standard* (15,700 tons *full load*)
Dimensions:	Length: 465 (*pp.*), 496 (*o.a.*) feet. Beam: 69½ feet (*hull*). Width: 112 feet (*extreme*). Draught: 26 (*max.*) feet
Guns:	1 or 2—5 inch, 51 cal., 16—40 mm. Bofors, 20—20 mm. Oerlikon (see *Notes*)
Aircraft:	30
Machinery:	Westinghouse geared turbines. S.H.P.: 8,500=18 kts.
Boilers:	2 Foster-Wheeler type
Complement:	800 (as CVHE), 72 (as T-CVU)

General Notes

All converted from mercantile hulls built by Seattle-Tacoma S.B. Corpn., and vary slightly in appearance. Flight deck is 450 feet long. All are named after sounds. These vessels are equipped with derricks for retrieving seaplanes. Reclassified from Escort Aircraft Carriers (CVE) to Escort Helicopter Aircraft Carriers (CVHE) on 12 June 1955. *Altamaha*, *Barnes*, *Bogue*, *Copahee* and *Nassau* were scrapped in 1959 (stricken from the list on 1 Mar. 1959).

The remaining four ships were reclassified as CVU on allocation as MSTS aircraft ferrys on 1 July 1958 to replace four "Anzio" class carriers, but were again reclassified as **AK**V on 7 May 1959. They are unarmed while designated **USNS** with civil service crews.

No.	*Name*	*Laid down*	*Launched*	*Completed*
AKV 40 (ex-CVU 11, ex-CVHE 11)	*Card*	27 Oct. 1941	21 Feb. 1942	8 Nov. 1942
AKV 41 (ex-CVU 13, ex-CVHE 13)	*Core*	2 Jan. 1942	15 May 1942	10 Dec. 1942
AKV 42 (ex-CVU 23, ex-CVHE 23)	*Breton*	25 Feb. 1942	27 June 1942	12 Apr. 1943
AKV 43 (ex-CVU 25, ex-CVHE 25)	*Croatan*	15 Apr. 1942	3 Aug. 1942	28 Apr. 1943

Photograph Notes

Photographs of *Altamaha* and *Bogue* appear in the 1959-60 and earlier editions.

Recent Disposals

The escort helicopter aircraft carrier *Prince William*, CVHE 31, similar to the "Bogue" class, and the escort helicopter aircraft carriers *Chenango*, CVHE 28, *Santee*, CVHE 29 and *Suwanee*, CVHE 27, of the "Suwanee" class, were scrapped in 1959 (stricken from the list on 1 Mar. 1959).

AMPHIBIOUS ASSAULT SHIPS (LPH)

3 New Construction

IWO JIMA **OKINAWA** **LPH 7**

Name:	*Iwo Jima*	*Okinawa*	
No.:	LPH 2	LPH 3	LPH 7
Builders:	Puget Sound Naval Shipyard	Philadelphia Naval Shipyard	Philadelphia Naval Shipyard
Laid down:	2 Apr. 1959	1 Apr. 1960*	May 1961*
Launch:	30 Sep. 1960*	1 June 1961*	June 1962*
Completion:	1 Aug. 1961*	15 Apr. 1962*	

* officially estimated dates

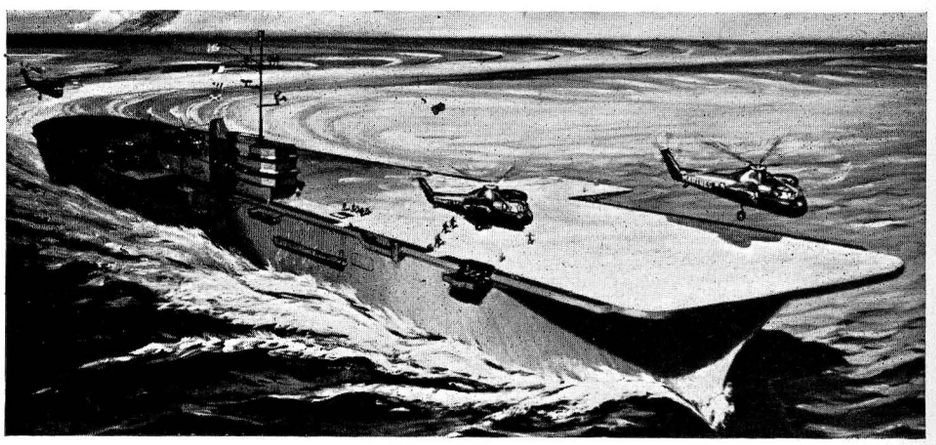
Displacement:	10,700 tons *light*, 15,000 tons *standard* (18,000 tons *full load*)
Dimensions:	Length: 592 feet, 600 feet (*o.a.*) Beam: 105 feet (*max.*), 84 feet (*hull*)
Aircraft:	20 to 45 helicopters (20 HR 25, 30 HUS)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 28,000=20 kts.
Boilers:	4
Complement:	2,500 (including a 1,500-man marine battalion)

General Notes

To support and fully exploit the Marine Corps vertical envelopment concept for the conduct of modern amphibious operations the U.S. Navy's 1959 shipbuilding programme includes one new construction helicopter amphibious assault ship. This carrier will transport a helicopter assault force consisting of approximately 2,000 personnel, essential combat supplies and equipment and twenty assault transport helicopters. The ship will have a sustained speed of 20 knots, the most modern command facilities, the latest type of cargo and material handling equipment, and adequate space for embarked troops, vehicles and equipment, and essential combat supplies. The flight and hangar decks will provide efficient helicopter operations and maintenance. The ship will be the first of its type in the long range construction programme and will be ready for the fleet in 1962. She will have two deck-edge elevators. This first amphibious assault ship to be built from the keel up for helicopter us is officially estimated to cost $40,000,000. There is at present one converted helicopter assault ship operating with the fleet. An additional conversion from an escort carrier was authorised in the 1957 Program, but was not undertaken. (*Block Island*, LPH 1, conversion plans of which were cancelled in June 1958). *Iwo Jima*, LPH 2, is being built under the Fiscal year 1958 program, *Okinawa*, LPH 3, under the Fiscal year 1959 program, and LPH 7 under the Fiscal year 1960 program.

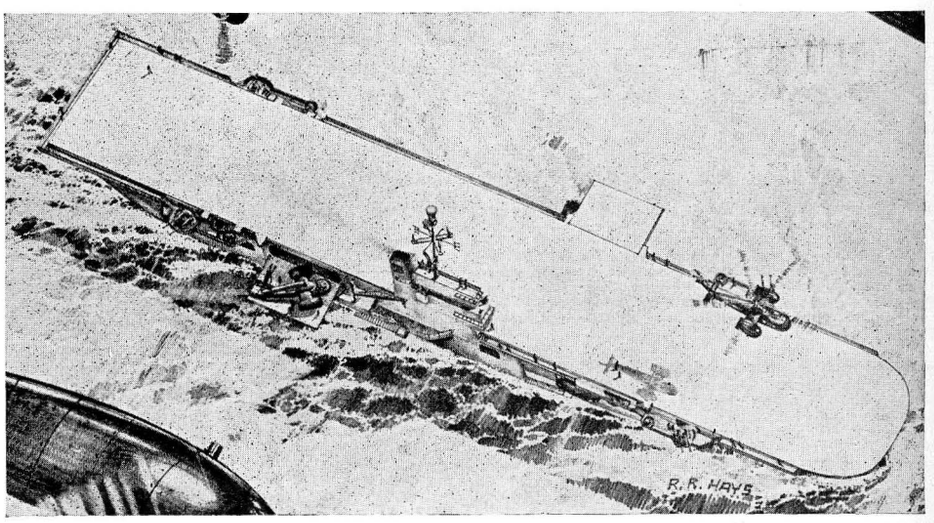
Illustration Notes

An artist's conception of a navy helicopter amphibious assault carrier (LPH) that was proposed as part of the Navy's 1957 conversion programme appears in the 1958-59 and 1957-58 editions. This carrier, *Block Island*, CVE 106, reclassified as LPH 1 on 22 Dec. 1957, was planned to operate with amphibious task forces and was designed for landing assault troops by helicopter, but her conversion was cancelled, and she was stricken on 1 July 1959.



IWO JIMA (engineer's sketch)

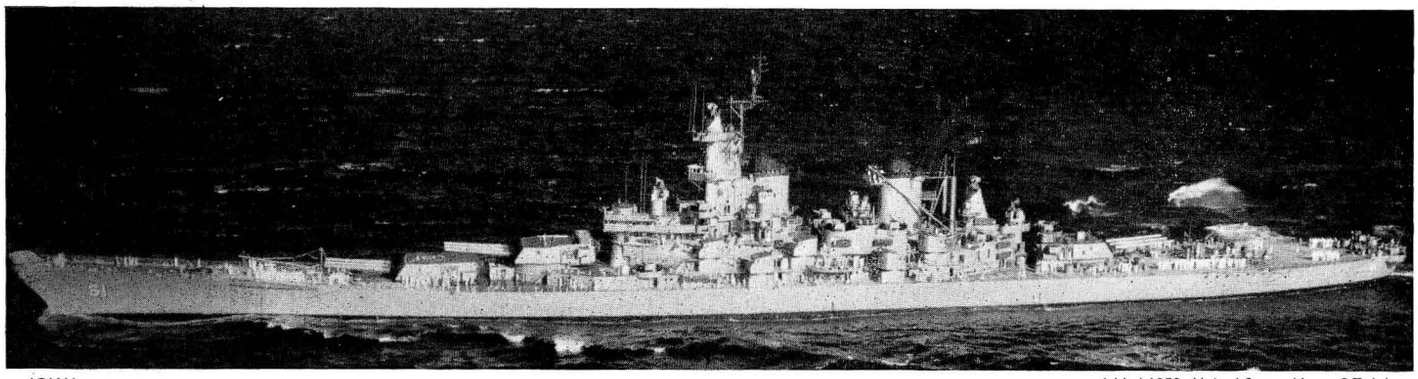
1959, *U.S. Navy, Official, courtesy "Our Navy"*



OKINAWA (artist's conception)

1959, *United States Navy, Official*

BATTLESHIPS (BB)



IOWA

Added 1959, United States Navy, Official

4 "Iowa" Class

IOWA
MISSOURI
NEW JERSEY
WISCONSIN

Displacement:	45,000 tons *standard* (57,950 tons *full load*
Dimensions:	Length: 861¼ (*pp.*), 888 (*o.a.*) feet. Beam: 108 feet. Draught: 38 feet (*max.*).
Guns:	9—16 inch, 50 cal., 20—5 inch, 38 cal., 52 to 80—40 mm. AA. or 30—3 inch, 50 cal., on rearming
Aircraft:	2 Helicopters.
Armour:	19"-16" side, 18" turrets, 11¼" decks.
Machinery:	Geared turbines. 4 shafts. S.H.P.: 212,000=33 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	8,800 tons
Complement:	2,000 (peace). 2,700 (war)

General Notes

All ordered under 1940 Program. Inclusive cost officially stated to exceed $100,000,000 each. *Iowa* and *New Jersey* were each built in 2¾ years, same period as occupied by the *Alabama*, a smaller ship. *Missouri* decommissioned to Pacific Reserve Fleet 26 Feb. 1955. *Wisconsin*, damaged by collision with destroyer *Eaton* in Atlantic 7 May 1956, was repaired with *Kentucky's* bow. *New Jersey* was decommissioned to the Reserve Fleet in 1957. *Iowa* was decommissioned to reserve in Feb. 1958. *Wisconsin* was the last to be decommissioned to reserve on 8 Mar. 1958.

Gunnery Notes

16 inch guns have a range of 23 miles. 3 inch, 50 cal. guns replace some of the former 40 mm. AA. batteries.

Aircraft Notes

Helicopters have replaced the catapult observation aircraft which were formerly standard. The two catapults on the quarterdeck were removed.

Engineering Notes

High pressure large boilers. Speeds of 35 kts. have been reached in service.

Appearance Notes

New Jersey was the first to be fitted with a tripod mainmast stepped against her after-funnel to accommodate flag-hoists and radar. *Iowa* and *Missouri* were similarly equipped, but *Wisconsin* remained the only ship of the class with a pole mainmast. In 1956 *Iowa* was refitted with a duapod mainmast under-support for radar apparatus, similar to twin kingposts. *Iowa*, *New Jersey* and *Wisconsin* now all have the new duapod kingposts abaft the second funnel; their purpose is to support the boat cranes, since the aircraft crane on the fantail has not the capacity to handle heavy boats.

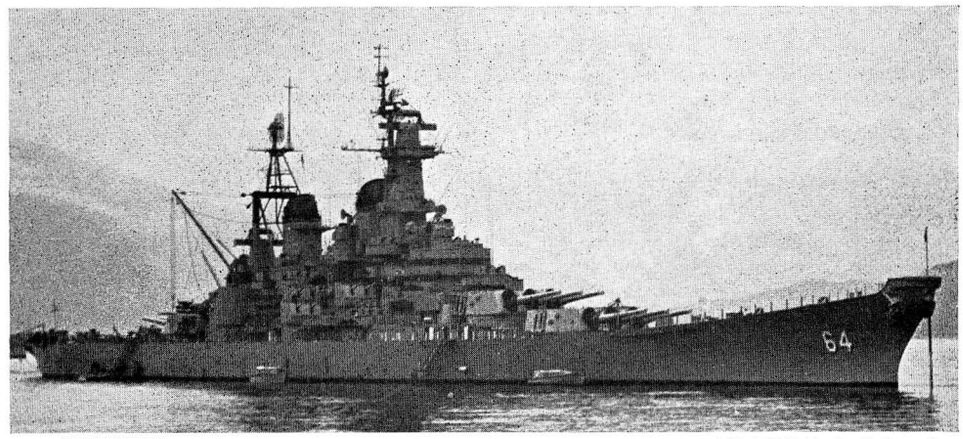
Class Notes

Sister ship *Kentucky*, BB 66, built by Norfolk Navy Yard laid down 6 Dec. 1942, then suspended for a time, was resumed in Dec. 1944, only to be arrested again in Aug. 1946, and resumed once more on 17 Aug. 1948 until she was 73 per cent complete with propelling machinery manufactured by the Westinghouse Corporation already installed. She was floated out from her building dock on 20 Jan. 1950, to be laid up in Norfolk, and retained in her then condition for eventual completion if a future emergency arose. She was towed away for scrapping in Aug. 1958.

The battleship *Illinois*, BB 65, of this class, authorised in 1940 and ordered from Philadelphia Navy Yard in Dec. 1942, was cancelled when 22 per cent complete on 11 Aug. 1945.

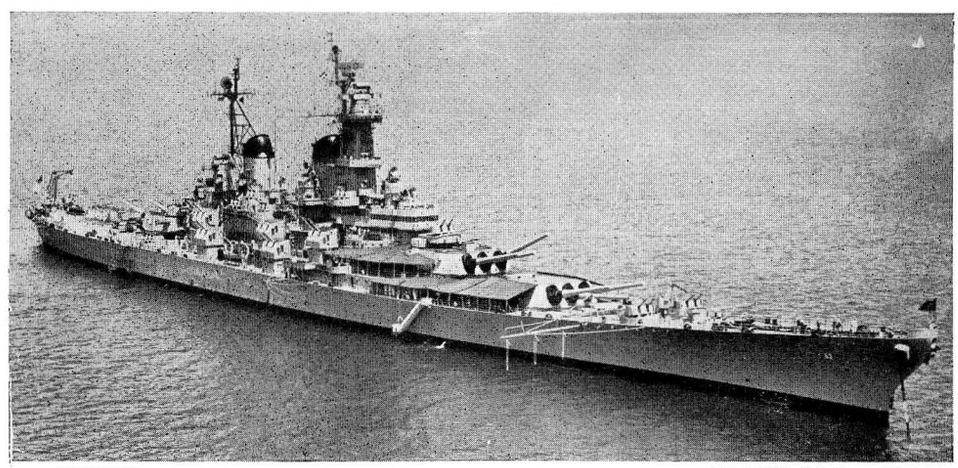
Notes to Drawing

Port elevation and plan. Drawn in 1957. Scale: 128 feet= 1 inch.



WISCONSIN

Added 1959, Dr. Ian S. Pearsall



MISSOURI

Added 1957, U.S. Navy, Official

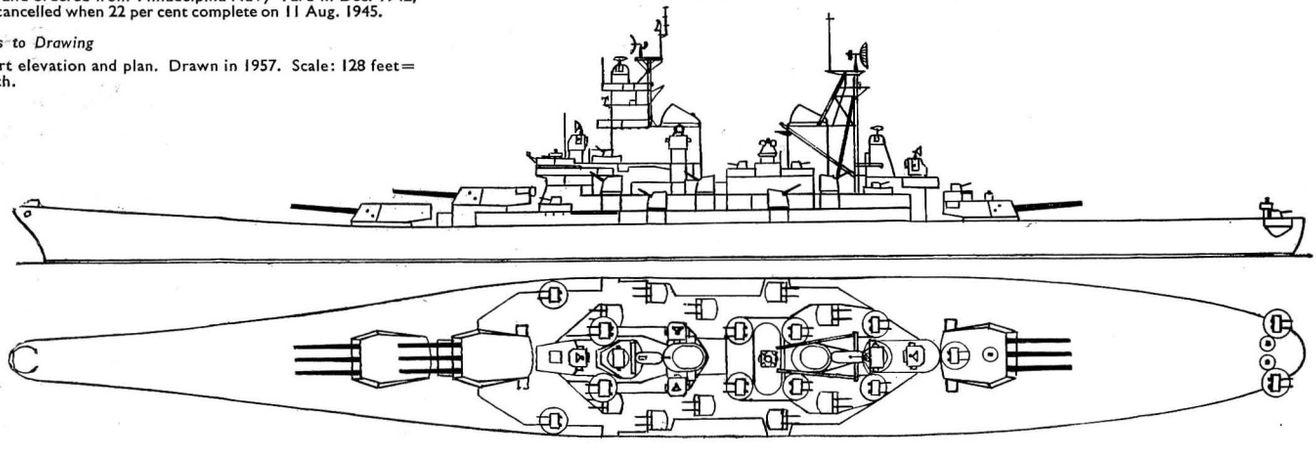
No.	*Name*	*Builders*	*Machinery*	*Laid down*	*Launched*	*Completed*
BB 61	*Iowa*	New York Navy Yard	General Electric Co.	27 June 1940	27 Aug. 1942	22 Feb. 1943
BB 62	*New Jersey*	Philadelphia Navy Yard	Westinghouse Co.	16 Sep. 1940	7 Dec. 1942	23 May 1943
BB 63	*Missouri*	New York Navy Yard	General Electric Co.	6 Jan. 1941	29 Jan. 1944	11 June 1944
BB 64	*Wisconsin*	Philadelphia Navy Yard	Westinghouse Co.	25 Jan. 1941	7 Dec. 1943	16 Apr. 1944

Conversion Notes

In Nov. 1958 it was proposed to convert a battleship into a high speed missile monitor—to be stripped of guns and redesigned to carry launching platforms for ballistic missiles, but there are no immediate plans for such a conversion.

Photograph Notes

Port broadside view of *New Jersey* in the 1957-58 edition. Starboard broadside view of *Wisconsin* and port bow aerial oblique view of *Iowa* in the 1958-59 edition.



Battleships—*continued*



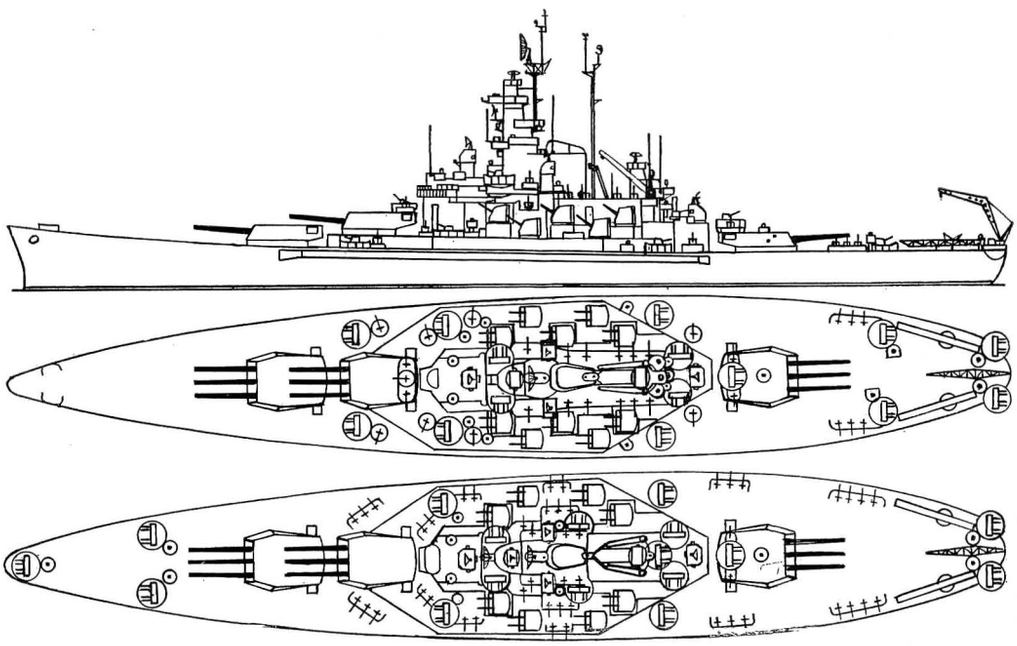
MASSACHUSETTS

United States Navy, Official

4 Short-Hulled Group

3 "Indiana" Class

ALABAMA
INDIANA
MASSACHUSETTS



Displacement:	35,000 tons *standard* (44,374 tons *full load* except *Massachusetts*, 45,216 tons *full load*)
Dimensions:	Length: 680 feet (*o.a.*). Beam: 108¼ feet. Draught: 36 feet (*max.*)
Guns:	9—16 inch, 45 cal., 20—5 inch, 38 cal. d.p., 56—40 mm. AA., 40—20 mm. AA.
Catapults:	2
Armour:	18"-16" side, 18" turrets, 6" upper deck, 4" main deck
Machinery:	Geared turbines. 4 shafts. S.H.P.: 130,000=28 kts.
Boilers:	Babcock & Wilcox in *Massachusetts*; Foster Wheeler in *Indiana* and *Alabama* (working pressure reported as 600 lb. per sq. inch with 400 degrees of superheat).
Complement:	1,808 (peace). 2,500 (war)

1 "South Dakota" Type

SOUTH DAKOTA

Displacement:	36,000 tons *standard* (45,500 tons *full load*).
Dimensions:	Length: 680 (*o.a.*) feet. Beam: 108¼ feet Draught: 37 (*max.*) feet
Guns:	9—16 inch, 45 cal.; 16—5 inch, 38 cal. d.p.; 68—40 mm. AA.; 40—20 mm. AA.
Armour:	18"—16" feet, 18" turrets, 10" decks.
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 130,000=30 kts.
Boilers:	8 Babcock & Wilcox
Complement:	2,340

General Notes

Ordered under 1938 Program. Cost over $77,000,000 each. These ships are a modification of "North Carolina" class design with increased freeboard and reduced length, embodying several improvements. *Alabama* was built in 2¾ years from date of laying keel. *South Dakota* played a prominent part in naval victory over Japanese squadron in Battle of Guadalcanal, 13-15 Nov. 1942. All out of commission, in reserve.

Gunnery Notes

The outstanding feature of these ships was the large number of 40 mm. Bofors and 20 mm. Oerlikon guns included in the AA. armament. The 5 inch guns are mounted at a higher level than in *North Carolina* and *Washington*.

Armour Notes

Understood that these ships have enhanced protection as compared with "North Carolina" class.

Notes to Drawing

Port elevation and plans. Drawn in 1957. Lower plan represents *South Dakota* only. Scale 128 feet=1 inch.

Photograph Notes

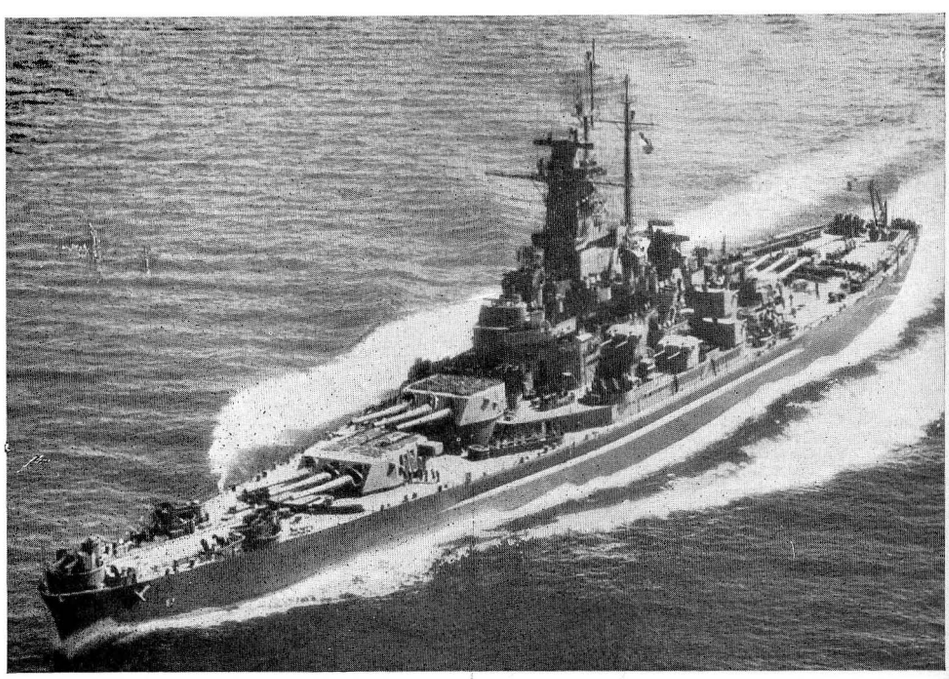
Starboard broadside view os *Alabama* and port quarter view of *Indiana* in the 1957-58 edition.

Recent Disposals

The battleships *North Carolina*, BB 55, and *Washington*, BB, 56, of the "North Carolina" class, were stricken from the List of Naval Vessels at the end of 1960.

The battle cruisers *Alaska*, CB 1, and *Guam*, CB 2, of the "Alaska" Class, officially rated as "Large Cruisers," were also stricken in 1960. (Their uncompleted sister ship *Hawaii*, CB 3, was stricken on 9 June 1958.)

The battleships, *California*, BB 44, and *Tennesee*, BB 43, of the "Tennesee" class; the *Colorado*, BB 45, and *Maryland*, BB 46, of the "Colorado" class; and the *West Virginia*, BB 48, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959).

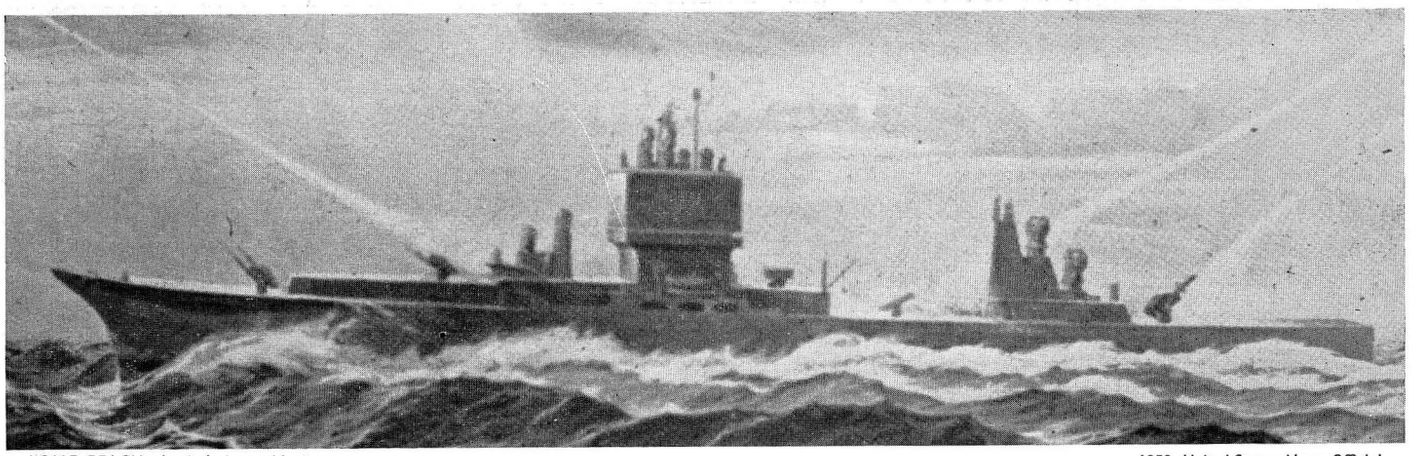


SOUTH DAKOTA

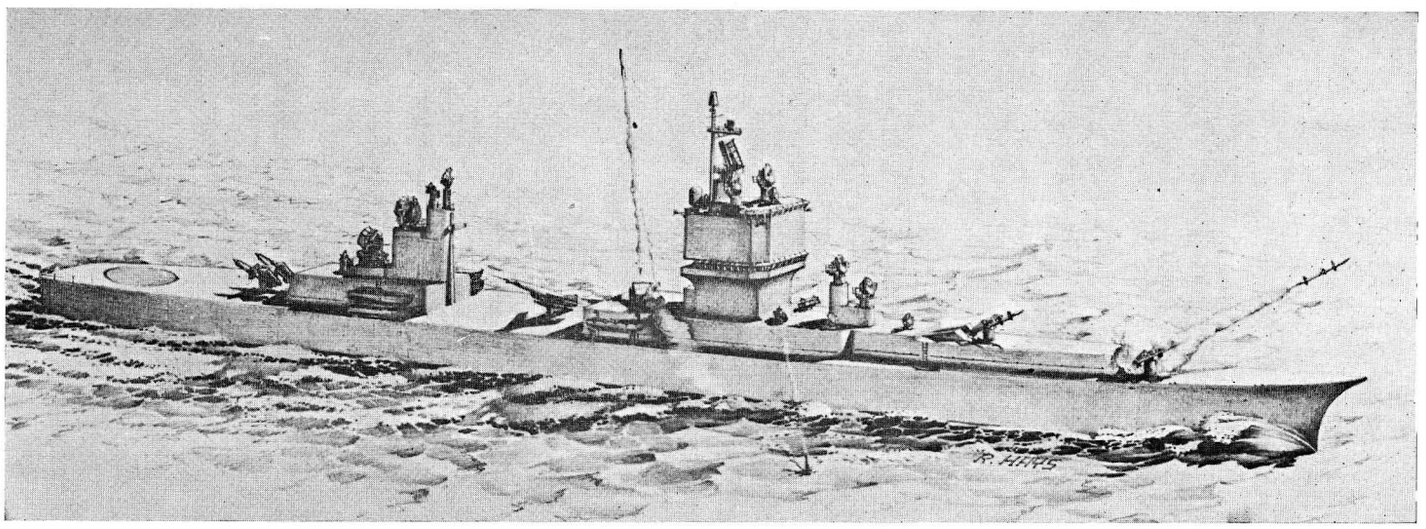
U.S. Navy, Official

No.	*Name*	*Builders*	*Machinery*	*Laid down*	*Launched*	*Completed*
BB 57	*South Dakota*	New York S.B. Corpn.	Gen. Electric Co.	5 July 1939	7 June 1941	16 Aug. 1942
BB 58	*Indiana*	Newport News Co.	Westinghouse Co.	20 Nov 1939	21 Nov 1941	Oct. 1942
BB 59	*Massachusetts*	Bethlehem Steel Co. (Quincy)	Gen. Electric Co.	20 July 1939	23 Sep. 1941	Sep. 1942
BB 60	*Alabama*	Norfolk Navy Yard	Westinghouse Co.	1 Feb. 1940	16 Feb. 1942	Nov. 1942

NUCLEAR POWERED GUIDED MISSILE CRUISER (CGN)



LONG BEACH (artist's impression) 1959, *United States Navy, Official*



LONG BEACH (artist's impression) 1957, *United States Navy, Official*

"Long Beach" Class

1 New Construction

LONG BEACH

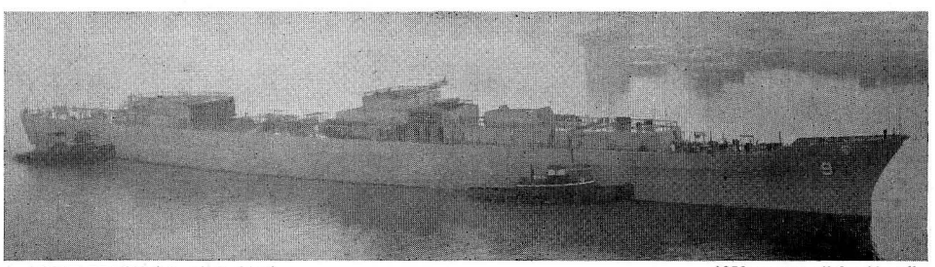
No:	CG (N) 9 (ex-CG(N) 160)
Builders:	Fore River Shipyard of Bethlehem Steel Company, Quincy, Mass.
Engineers:	Westinghouse Electric Corporation & General Electric Company, West Lynn, Mass.
Laid down:	2 Dec. 1957
Launched:	14 July 1959
Completion:	Late 1960 (official schedule)
Displacement:	14,000 tons *standard* (18,000 tons *full load*)
Dimensions:	Length: 721 feet. Beam: 73 feet. Draught: 26 feet.
Guns:	Armament will consist almost entirely of guided weapons
Guided Missiles:	"Regulus" (may eventually be fitted with "Polaris" fleet ballistic missiles instead) "Talos" battery aft (both long range and short range) Advanced "Terrier" battery forward (see *Guided Missile Notes*)
A/S weapons:	Surface to surface missiles
Machinery:	2 pressurised water cooled A1 W nuclear reactors by Westinghouse Electric Corporation. Steam turbines. 2 shafts. Main turbines and gears by General Electric Company. Speed: 45 kts.

General Notes

Originally classified as a guided missile light cruiser (CLGN). Provided under the Fiscal 1957 Naval Appropriations. Designed by the U.S. Navy Bureau of Ships. No armour. To cost $250,000,000, including $18,335,305 for the nuclear reactor. Name *Brooklyn* was considered for this ship. She is officially scheduled for completion in late 1960 and to join the Fleet in late 1961 or early 1962.

Building Notes

Dates and full details of the contracts for construction development, and design studies awarded to the builders and engineers, missile manufacturers and ordnance firms, are given in the 1957-58 edition.



LONG BEACH (after launching) 1959, *courtesy "Our Navy"*

Design Notes

This is the first ship to be designed and constructed from the keel up as a cruiser for the United States since the end of the Second World War, the first surface ship to be armed with a main battery of guided missiles and powered by a nuclear engineering plant, and the first nuclear powered surface fighting ship in the world.

She is designed to operate offensively and independently of other forces under conditions of nuclear warfare and is capable of operating against aircraft, guided missiles, surface or subsurface opposition singly or in support of other forces in both nuclear and non-nuclear warfare. In addition to equipment and weapons for detecting and destroying enemy submarines she will carry most of the United States Navy's modern guided missiles. These will include the "Regulus", the "Talos" and the "Terrier", offensive to enemy attack launched from air, sea, land or water, whether by missile or conventional assault.

Electronic Notes

The most modern improvements in electronic detection devices will be installed aboard the new ship.

Engineering Notes

Westinghouse Electric Corporation constructed the reactor compartment components. General Electric Company constructed the main propulsion engines and gears.

Electrical Notes

Westinghouse Electric Corporation built the six turbine generator sets for the ship, each of which will have a rating of 2,500 kilowatts.

Guided Missile Notes

The complex handling and launching system for "Talos" weighs more than 350 tons. The system is intended to store load, train, elevate, and launch the guided missiles, which weigh 3,000 pounds and are 31 feet long, including booster, and 30 inches in diameter.

The launching equipment automatically selects whichever type of missile the fire control officer chooses and delivers it to the launching station. The control system is so complex that the equipment must not only remember which missile is in which rack but must also remember any changes made in the racks themselves.

The ready-service missile magazine, which operates in conjuntion with this equipment to make a complete handling and launching system, was designed and manufactured by the Puget Sound Naval Shipyard, Bremerton, Washington.

The ramjet-propelled "Talos" is capable of engaging both supersonic and subsonic targets and will be effective against enemy planes employing air-to-surface missiles and the missiles themselves. It can deliver a high-explosive or atomic warhead, as circumstances dictate, and can be used against enemy ships and shore bombardment targets, as well as for air defence.

The design of the *Long Beach* includes provision for an 8 missile "Polaris" launching system which may be installed at a later date.

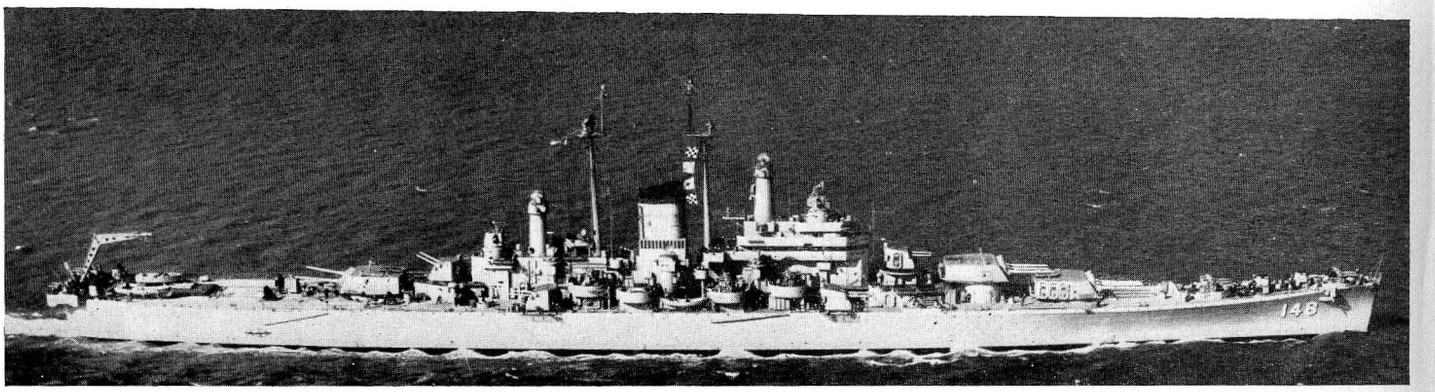
Converted Guided Missile Cruisers

The heavy cruiser *Albany* is being converted into a guided missile cruiser.

The heavy cruisers *Boston* and *Canberra* were converted into guided missile cruisers in 1955-56.

The light cruisers *Galveston, Little Rock, Oklahoma City, Providence, Springfield* and *Topeka* were converted into guided missile cruisers in 1958-60 (see later pages).

HEAVY CRUISERS (CA)



NEWPORT NEWS

Added 1957, United States Navy, Official

3 "Salem" Class

DES MOINES	NEWPORT NEWS	SALEM

Displacement:	17,000 tons *standard* (21,500 tons *full load*)
Dimensions:	Length: 716½ (*o.a.*) feet. Beam 75⅓ feet. Draught: 26 (*max.*) feet
Guns:	9—8 inch, 55 cal., triple turrets, 12—5 inch, 38 cal., d.p., twin mounts, 24—3 inch AA., 50 cal.
Aircraft:	1 helicopter
Armour:	8"-6" side, 3"+2" decks
Machinery:	Geared turbines. 4 shafts. S.H.P 120,000=33 kts.
Boilers:	8 Babcock & Wilcox
Oil Fuel:	2,600 tons
Radius:	8,000 miles at 15 kts.
Complement:	1,860 (war)

General Notes

The heaviest cruisers in the world, and the first vessels to mount completely automatic rapid-fire 8-inch guns, these ships represent an expansion of *Oregon City* design. Much of extra tonnage is absorbed by rapid loading gear and extra magazine space, though part of this is made up by saving in complement. *Newport News* and *Salem* are the first completely air-conditioned cruisers. The *Des Moines* is not air-conditioned. All assigned to Atlantic Fleet. The *Salem*, which decommissioned between Oct. 1958 and Feb. 1959, was the permanent flagship of the U.S. Sixth Fleet, her Mediterranean home port being at Villefranche, France, until she was relieved there as such in Feb. 1958 by the *Des Moines*, which was in turn relieved as flagship in Oct. 1960 by the *Little Rock*, a guided missile cruiser (see later page).

Gunnery Notes

All guns are of fully automatic type. Cartridge cases have replaced wrapped charges and shells have automatic fuse setting. 8-inch guns are said to be capable of firing four times more rapidly than any previous model. The 24—3 inch AA. guns are in 12 twin mountings: 2 twin mountings abreast funnel are not installed in peacetime.

Appearance Notes

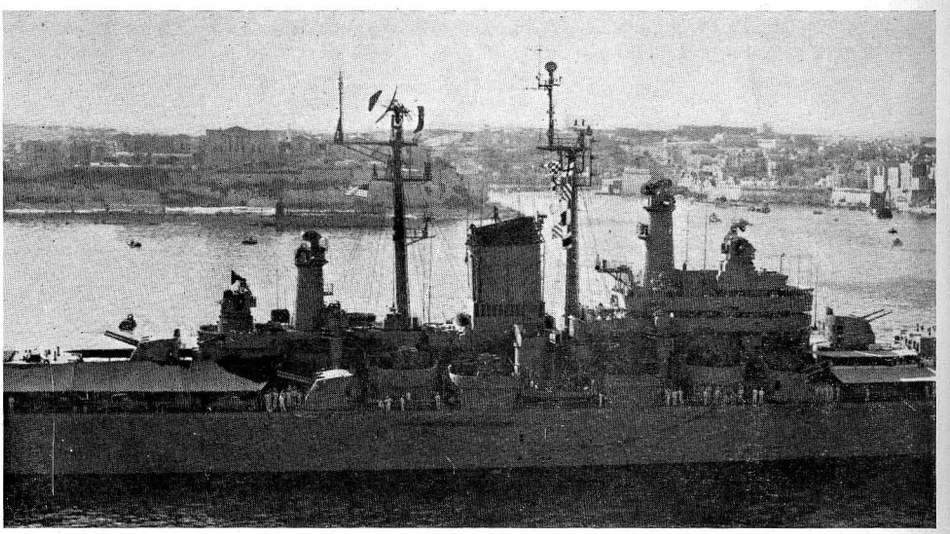
As completed have single funnels, thus resembling "Oregon City" class in appearance.

Photograph Notes

Starboard bow view of *Salem* in the 1957-58 edition.

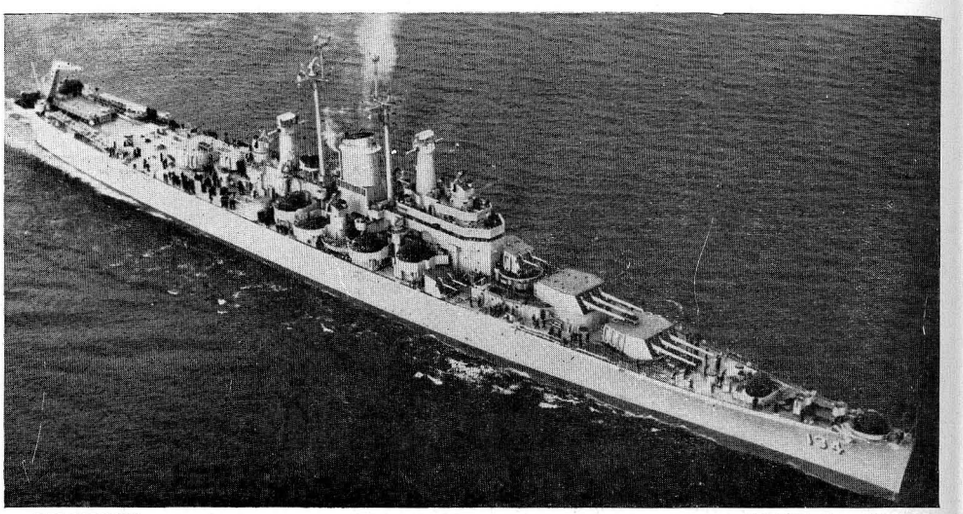
Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch. The 20 mm. AA guns shown in the drawing have since been removed.



SALEM (midship details)

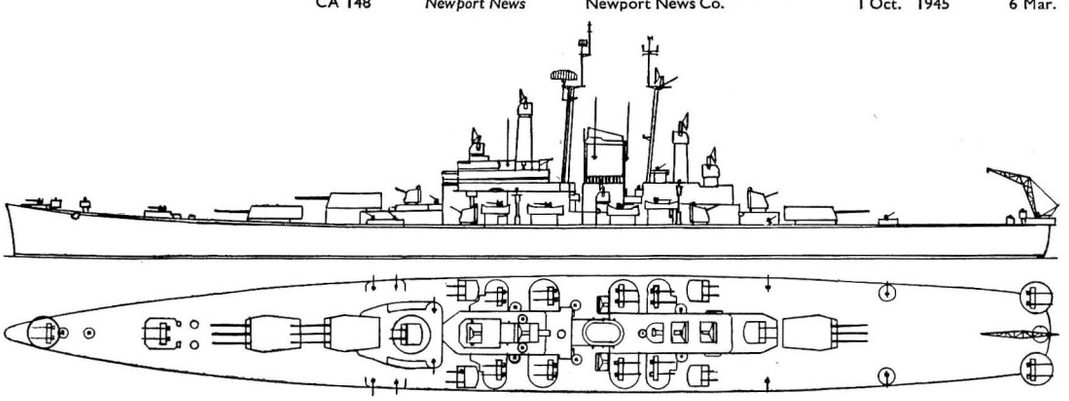
Added 1959, A. & J. Pavia



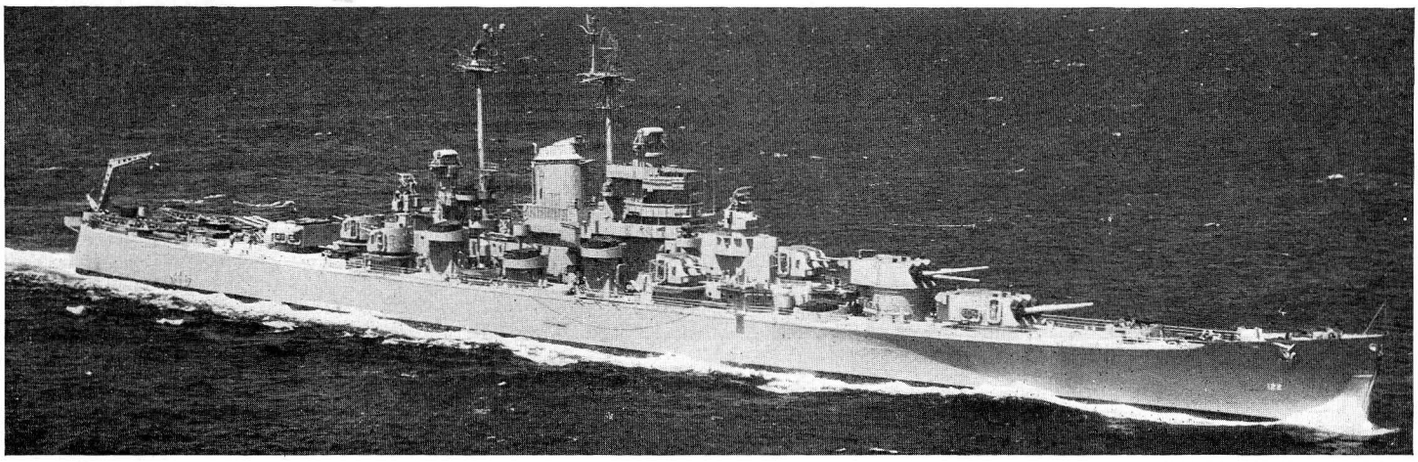
DES MOINES

1957, U.S. Navy, Official

No.	*Name*	*Builders and Machinery*	*Laid down*	*Launched*	*Completed*
CA 134	*Des Moines*	Bethlehem Steel Co., Quincy	28 May 1945	27 Sep. 1946	17 Nov. 1948
CA 139	*Salem*	Bethlehem Steel Co., Quincy	4 June 1945	25 Mar. 1947	9 May 1949
CA 148	*Newport News*	Newport News Co.	1 Oct. 1945	6 Mar. 1947	29 Jan. 1949



Heavy Cruisers—*continued*



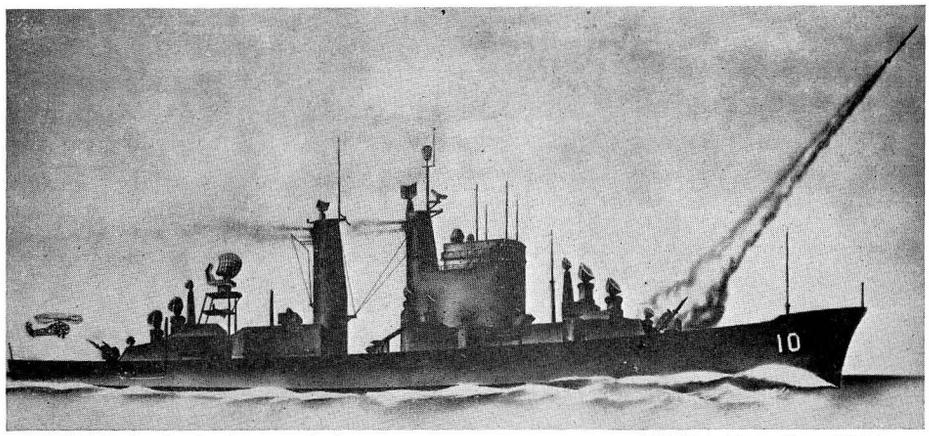
OREGON CITY

Added 1954, U.S. Navy, Official

Guided Missile Cruiser (CG) and Heavy Cruisers (CA)

3 "Oregon City" Class

ALBANY	OREGON CITY	ROCHESTER
Displacement:	*Albany* and *Oregon City*: 13,700 tons *standard*, *Rochester*: 13,000 tons *standard* (17,500 tons *full load*)	
Dimensions:	Length: 673½ (*o.a.*) feet. Beam: 71 feet. Draught: 26 (*max.*) feet	
Guns:	*Rochester*: 9—8 inch, 12—5 inch, 38 cal., 20—3 inch, 50 cal. AA. *Oregon City*: 9—8 inch, 55 cal., 12—5 inch, 38 cal., 52—40 mm. AA., 24—20 mm. AA.,	
Guided Missiles:	*Albany*: Twin "Talos" launchers forward and aft; "Tartar" launchers amidships.	
Aircraft:	1 helicopter	
Armour:	6" side, 3" + 2" decks	
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=33 kts.	
Boilers:	8 Babcock & Wilcox	
Oil Fuel:	2,500 tons	
Radius:	9,000 miles at 15 kts.	
Complement:	1,700 (war)	



ALBANY (design drawing for conversion)

1959, United States Navy Official

General Notes

These ships are modified *Baltimores* with a single funnel and simplified superstructure. Bridge is farther aft than in *Baltimore* class. *Oregon City*, out of commission, in reserve, retains original armament. Active units rearmed with 3 inch guns in place of 40 mm. and 20 mm.

Albany decommissioned in 1958 for conversion to a guided missile cruiser. See *Conversion Notes* below. Her classification and hull number was officially changed from CA 123 to CG 10 on 1 Nov. 1958.

Engineering Notes

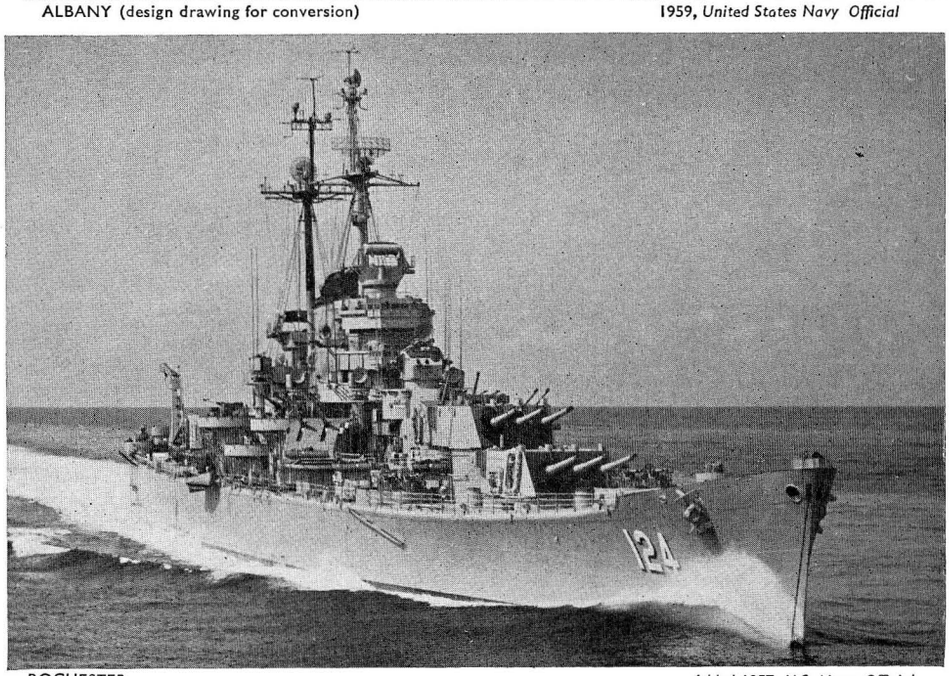
Cruising turbines are not included in engine design. In event of port or starboard fuel tanks being ruptured, change-over of suction to other side could be accomplished in a minute, oil burner lines being divided at boiler face.

Conversion Notes

The *Albany* is being converted to a guided missile cruiser at Boston Naval Shipyard. The reconstruction will consist of installing guided missile capabilities both forward and aft. In previous conversions, such as those of the *Boston* and *Canberra*, see later page, conventional armament was retained forward while missile launchers were installed aft. Other work, such as the improvement of habitability, will be done in the heavy cruiser in conjunction with the installation of missile capabilities. She will receive both "Talos" and "Tartar" surface-to-air missile armament. Twin "Talos" launchers will be mounted fore and aft, and "Tartar" launchers will be installed amidships, "Regulus" launchers can also be installed as required. She is being stripped of her original armament, and "macks" will replace her former stacks and masts.

The design includes provision for an 8 missile "Polaris" launching system.

Conversion work started on 2 Jan. 1959 and it is officially estimated that the reconstructed ship will be completed and commissioned in July 1961.

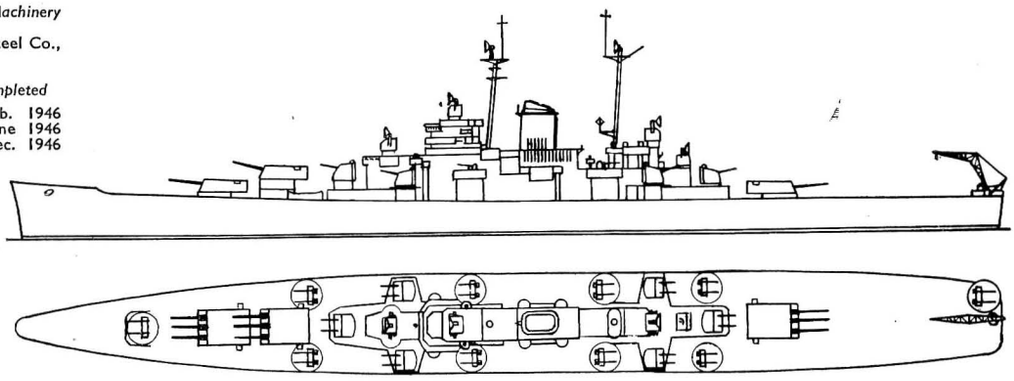


ROCHESTER

Added 1957, U.S. Navy, Official

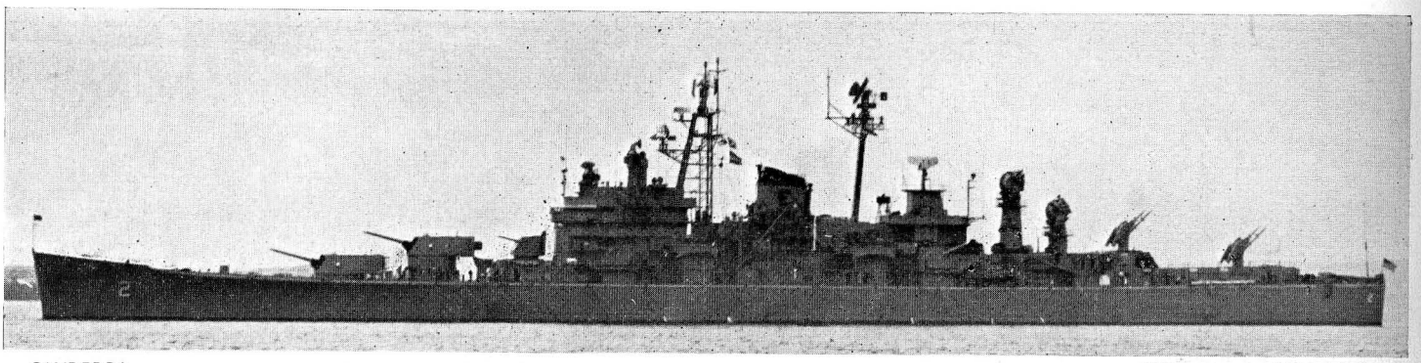
No.	*Name*	*Builders and Machinery*
CA 122	*Oregon City*	Bethlehem Steel Co., Quincy
CG 10 (ex-CA 123)	*Albany*	
CA 124	*Rochester*	

No.	*Laid down*	*Launched*	*Completed*
CA 122	8 Apr. 1944	9 Apr. 1945	16 Feb. 1946
CG 10	6 Mar. 1944	30 June 1945	15 June 1946
CA 124	29 May 1944	28 Aug. 1945	20 Dec. 1946



Notes to Drawing

Port elevation and plan of *Oregon City* and *Rochester*. Scale: 128 feet =1 inch.



CANBERRA

1958, *courtesy Ian S. Pearsall, Esq.*

Guided Missile Cruisers (CAG)

2 Converted " Baltimore " Class

	BOSTON	**CANBERRA** (ex-*Pittsburgh*)
Name:	*Boston*	*Canberra*
No.:	CAG 1 (ex-CA 69)	CAG 2 (ex-CA 70)
Builders:	Bethlehem-Steel Co., Quincy	Bethlehem-Steel Co., Quincy
Laid down:	30 June 1941	3 Sep. 1941
Launched:	26 May 1942	19 Apr. 1943
Completed:	30 June 1943	14 Oct. 1943
Converted:	1 Nov. 1955	15 June 1956

Displacement:	13,600 tons *standard* (17,200 tons full load)
Dimensions:	Length: 673½ (*o.a.*) feet. Beam: 71 feet. Draught: 26 (*max.*) feet
Guns:	6—8 inch 55 cal.; 10—5 inch 38 cal.; 12—3 inch, 50 cal. AA.
G.M. Launchers:	2 twin mountings for " Terriers " (aft only)
Armour:	6 inch side belts, 3 inch decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=34 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	2,500 tons
Complement:	1,635 (*Boston* 110 officers, 1,620 men) capacity, 1,300 at present

General Notes

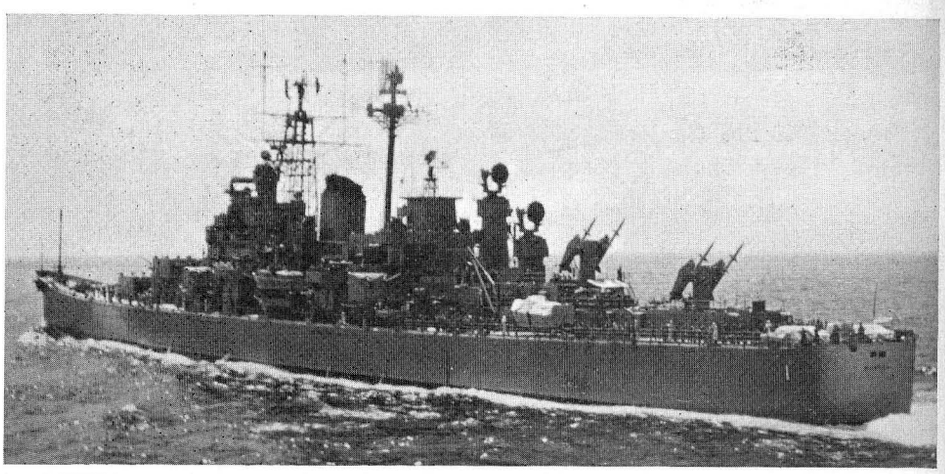
The world's first guided missile cruisers and first operational combat ships capable of firing supersonic anti-aircraft guided weapons. These ships with their associated radars and guidance systems for the " Terrier " and other anti-aircraft missiles represent a completely new naval weapons system specifically designed to further the U.S. Navy's policy of countering aircraft. Formerly classified as Heavy Cruisers (CA). *Boston* was originally built in exactly two years. *Canberra*, just before completion, was renamed in commemoration of H.M.A.S. *Canberra* which was sunk in the 1st Battle of Savo Island, 9 Aug., 1942.

Conversion Notes

Both ships were converted to Guided Missile Heavy Cruisers (CAG) by the New York Shipbuilding Corporation, Camden, New Jersey, at a cost of $30,000,000 for both. The after 143-ton 8 inch triple gun turret and the after 5 inch twin gun mounting were removed and two twin guided missile launchers mounted in " X " and " Y " positions in their place. Both ships have undergone other drastic changes to prepare them for their new role of defence against aircraft. The ships' superstructure was entirely remodelled to accommodate the new weapons. One of the two funnels was entirely removed which vastly alters the appearance of the vessels.

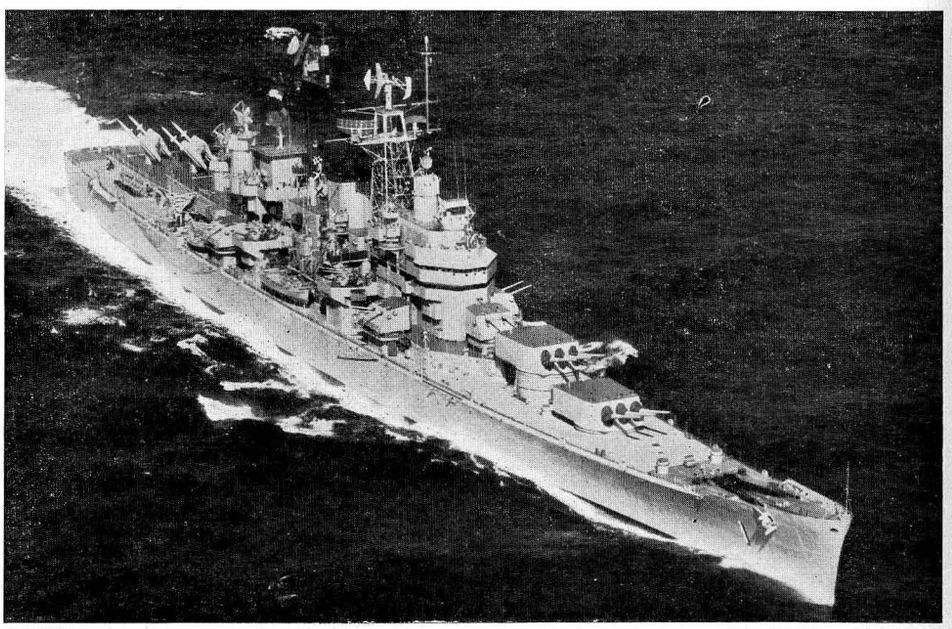
Guided Missile Notes

A slim needle-nosed supersonic anti-aircraft weapon, with a length of 27 feet and a speed of 1,500 m.p.h., the " Terrier," developed by the U.S. Navy's Bureau of Ordnance is designed to intercept aircraft under any weather conditions at a longer range and higher altitudes than conventional anti-aircraft guns. Stowage of the " Terrier " is below decks in two magazines, dubbed the " coke machines," which are completely automatic loading devices. Radar and electronic equipment for detecting targets and for guiding the missiles represent the most drastic change. This equipment is the most modern available and is designed for a maximum degree of automatic operation. Each of the two twin launchers is capable of firing two " Terriers " simultaneously. Can launch four missiles in eight-tenths of a second. Two missiles per launcher every 30 seconds. Automatic loading. 144 " Terrier " missiles carried in each ship. The " Terrier " was fired experimentally in fleet operations in Nov. 1954, from the U.S.S. *Mississippi*, the Navy's oldest battleship, which had been converted into a test ship for this purpose; she was scrapped in 1957.



BOSTON

1960, *courtesy Commander John C. Parry, U.S.N.R.*

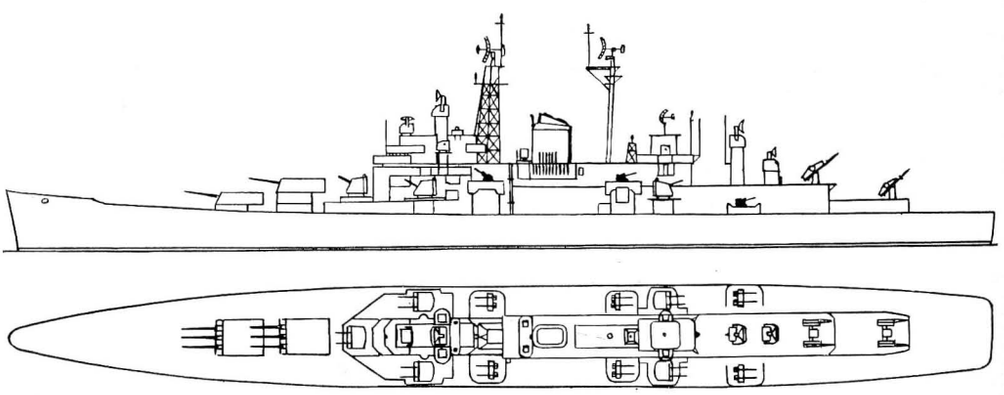


BOSTON

1956, *U.S. Navy, Official*

Photograph Notes

A port quarter oblique aerial view of *Boston* appears in the 1956-57 to 1958-59 editions, and a starboard quarter surface view in the 1959-60 edition.



Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

Heavy Cruisers—*continued*



LOS ANGELES (catapults now removed, fitted for " Regulus " guided missiles) 1958, *U.S. Navy, Official*

Guided Missile Cruisers (CG) and Heavy Cruisers (CA)

12 " Baltimore " Class

BALTIMORE
BREMERTON
CHICAGO
COLUMBUS
FALL RIVER
HELENA (ex-*Des Moines*)
LOS ANGELES
MACON
PITTSBURGH (ex-*Albany*)
QUINCY (ex-*St. Paul*)
ST. PAUL (ex-*Rochester*)
TOLEDO

Displacement:	13,600 tons *standard* (17,200 tons *full load*)
Dimensions:	Length: 673½ (*o.a.*) feet. Beam: 71 feet. Draught: 26 (*max.*) feet
Guns:	9—8 inch, 55 cal., 12—5 inch, 38 cal., 52—40 mm. AA. (20—3 inch 50 cal. guns replace 40 mm. in active units except *Baltimore*)
Aircraft:	All ships carry a helicopter
Armour:	6″ side, 3″ + 2″ decks.
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=34 kts.
Boilers:	8 Babcock & Wilcox
Oil Fuel:	2,500 tons
Radius:	9,000 miles at 15 kts.
Complement:	1,700 (war)

General Notes

Pittsburgh was built in 20 months. All others except *Toledo* were built in two years. Are much enlarged and improved editions of *Wichita*. Last 6 ships belong to War Programme. *Baltimore* and *Pittsburg* were decommissioned in 1956 and *Bremerton* and *Toledo* in 1960. Only one crane now at stern except *Baltimore* and *Quincy* which have two cranes on stern as shown in photograph of *Baltimore* in 1958-59 edition. Catapults discarded. Active units have twin 3 inch, 50 cal. guns on starboard quarter only, except those fitted as guided missile cruisers which have none on quarter. The classification and hull numbers of *Chicago* (CA 136 to CG 11) and *Fall River* (CA 131 to CG 12) were officially changed to become effective on 1 Nov. 1958, but the classification of *Fall River* as CG 12 was cancelled on 9 Oct. 1958. *St. Paul* was designated as the permanent flagship of the 7th Fleet in 1959, her home port being at Yokosuka, Japan. She now has a tower foremast, and improved radar, see photograph.

Gunnery Notes

8-inch guns are a new model, firing a heavier shell than those mounted in earlier cruisers. *Bremerton*, *Columbus*, *Helena*, *Los Angeles*, *Macon*, *St. Paul* and *Toledo* have undergone armament conversion (improved rapid-firing 3 inch 50 cal. AA. guns replacing 40 mm. AA. guns).

Guided Missile Notes

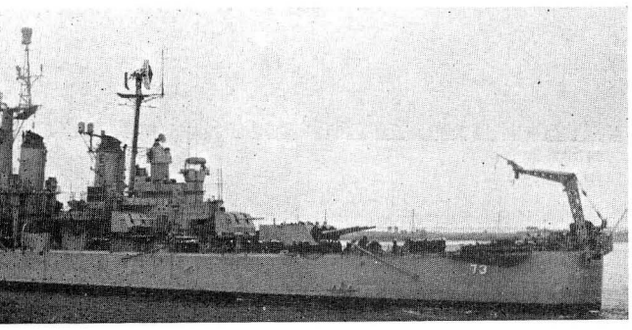
Boston and *Canberra* have been converted to guided missile ships (CAG), see earlier page. (Fitted with surface-to-air " Terrier " missile installations.) *Los Angeles* was converted to carry " Regulus " guided missiles at Mare Island Naval Shipyard during 3 months of 1954 with little change in previous armament. *Helena*, *Macon* and *Toledo* also fitted for " Regulus " guided missiles. These four ships are not classified as guided missile cruisers, however.

Conversion Notes

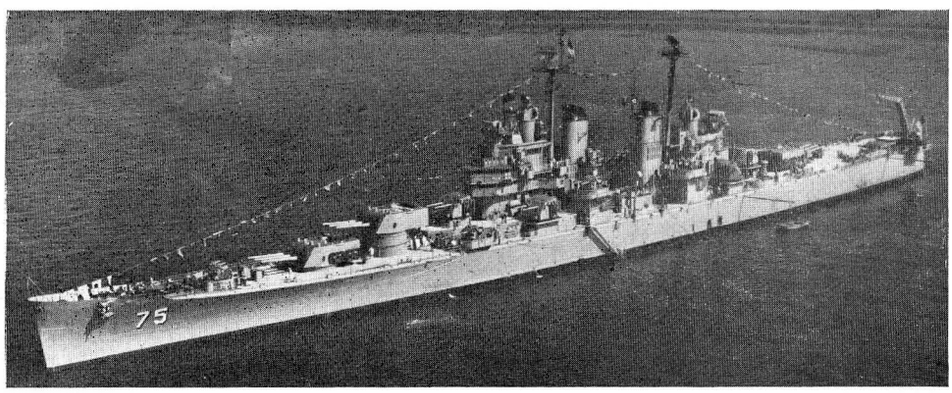
The *Chicago* and *Fall River* of this class were to have been converted into guided weapon cruisers under the Fiscal 1958 cruiser conversion program, but the conversion of *Fall River* was subsequently cancelled. *Fall River* was to have been converted at Puget Sound Naval Shipyard, and *Chicago* at San Francisco Naval Shipyard. Two ships of this class are being converted to guided missile cruisers under the Fiscal 1959 program. The conversions of *Chicago* and *Columbus* are now being proceeded with, *Chicago* at San Francisco Naval Shipyard and *Columbus* at Puget Sound Naval Shipyard. *Chicago* conversion began on 1 July 1959, *Columbus* on 1 June 1959, and it is officially estimated that they will be commissioned in Oct. 1961 and Dec. 1961, respectively.

They are to have a combination of " Talos " and " Tartar " surface-to-air missile systems with " Talos " mounted on twin launchers fore and aft, and " Tartar " launchers installed amidships. " Regulus " launchers can be installed as required. All superstructure and gun mountings are being removed, and they are to be rebuilt to provide for ASW weapons in addition to missiles.

The design includes provision for an 8 missile " Polaris " launching system which may be installed at a later date.



ST. PAUL 1959, *U.S. Navy, Official, courtesy " Our Navy "*



HELENA 1957, *U.S. Navy, Official*

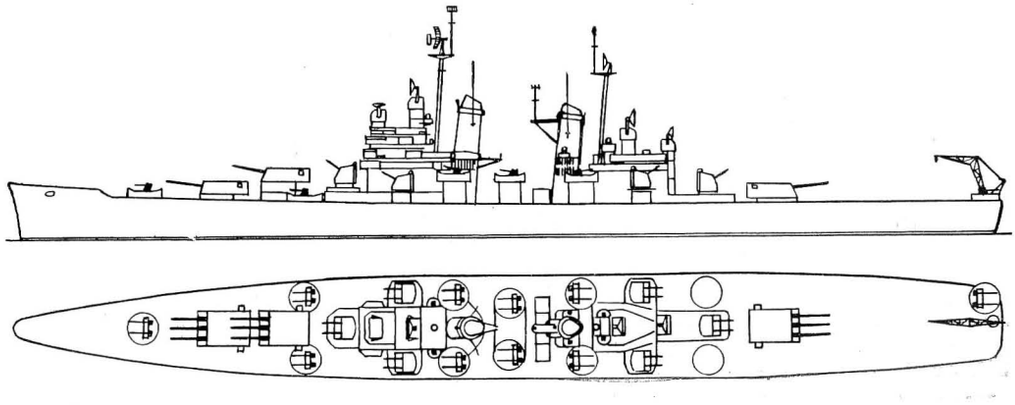
No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
CA 68	*Baltimore*	Bethlehem Steel Co. Quincy	26 May 1941	28 July 1942	15 Apr. 1943
CA 71	*Quincy*		9 Oct. 1941	23 June 1943	15 Dec. 1943
CA 72	*Pittsburgh*		3 Feb. 1943	22 Feb. 1944	10 Oct. 1944
CA 73	*St. Paul*		3 Feb. 1943	16 Sep. 1944	17 Feb. 1945
CG 12 (ex-CA74)	*Columbus*		28 June 1943	30 Nov. 1944	8 June 1945
CA 75	*Helena*		9 Sep. 1943	28 Apr. 1945	4 Sep. 1945
CA 130	*Bremerton*	New York S.B. Corpn.	1 Feb. 1943	2 July 1944	29 April 1945
CA 131	*Fall River*		12 Apr. 1943	13 Aug. 1944	1 July 1945
CA 132	*Macon*		14 June 1943	15 Oct. 1944	26 Aug. 1945
CA 133	*Toledo*		13 Sep. 1943	6 May 1945	27 Oct. 1946
CA 135	*Los Angeles*	Philadelphia Navy Yard	28 July 1943	20 Aug. 1944	22 July 1945
CG 11 (ex-CA 136)	*Chicago*		28 July 1943	20 Aug. 1944	10 Jan. 1945

Photograph Notes

Photograph of " Regulus " guided missile being launched from *Helena*, and port broadside view of *Macon* in the 1957-58 edition. Port quarter view of *Baltimoe* in 1954-55 to 1958-59 editions.

Recent Disposals

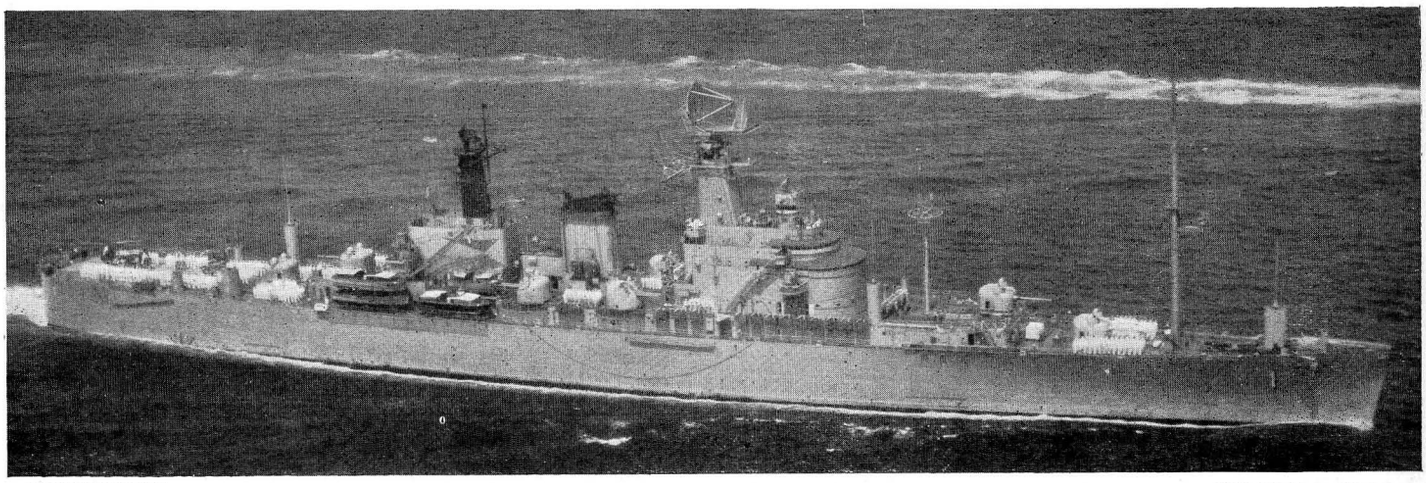
The heavy cruisers *Augusta*, CA 31, *Chester*, CA 27 and *Louisville*, CA 28, of the " Chester " class; the *Portland*, CA 33; the *New Orleans*, CA 32, *Minneapolis*, CA 36, *Tuscaloosa*, CA 37 and *San Francisco*, CA 38, of the " New Orleans " class; and the *Wichita*, CA 45, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959).



Notes to Drawing

Port elevation and plan of " Baltimore " class not converted. Scale: 128 feet=1 inch.

TACTICAL COMMAND SHIP (CLC)

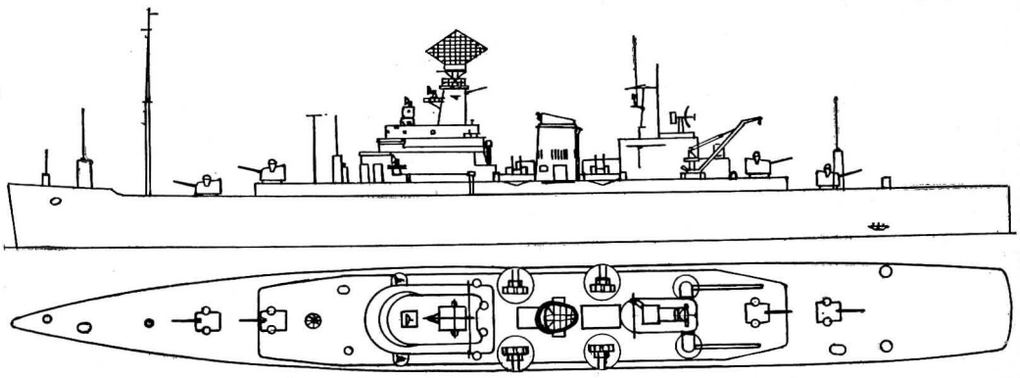


NORTHAMPTON

1957, *U.S. Navy, Official*

Formerly rated as
Cruiser, Task Fleet Command Ship

1 " Northampton " Type



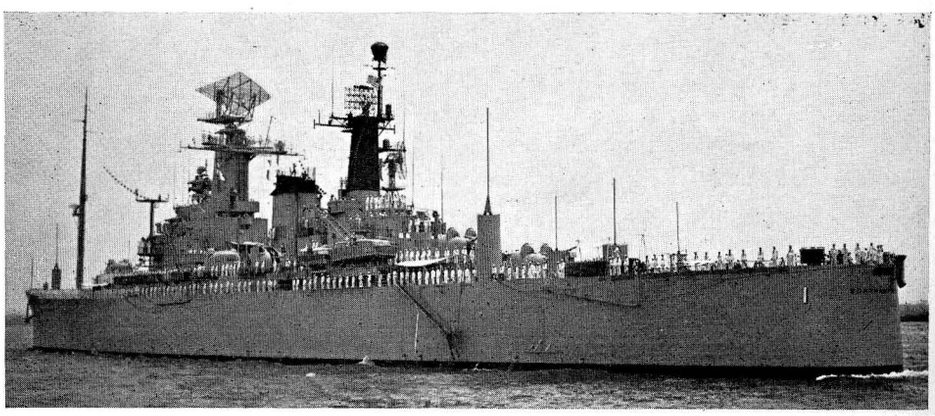
NORTHAMPTON

No.:	CLC 1 (ex-CA 125)
Builders:	Bethlehem Co., Quincy, Mass.
Laid down:	31 Aug. 1944
Launched:	27 Jan. 1951
Completed:	7 Mar. 1953

Displacement:	14,700 tons *standard* (17,200 tons *full load*)
Dimensions:	Length: 676 (*o.a.*) feet. Beam: 71 feet. Draught: 29 (*max.*) feet
Guns:	4—5 inch, 54 cal. as main armament, 8—3 inch, 70 cal. AA. (see *Gunnery Notes*)
Aircraft:	2 helicopters
Armour:	6" side, 3" + 2" decks
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 120,000=33 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	2,500 tons
Complement:	1,675 (war), 1,251 (peace)—56 officers, 1,195 men

General Notes

This vessel was originally designed as a heavy cruiser of the modified " Oregon City " class numbered CA 125. She was 57 per cent constructed as such when she was cancelled on 11 August 1945. She was re-ordered 1 July 1948, and re-designed as a Task Force (now Tactical) Command Ship with the new rating of CLC 1, for the exclusive use of Task Force commanders in conducting either operations of fast moving carrier task forces or an amphibious assault. Accommodation and equipment were modified accordingly. She is fully air-conditioned with an installation at least as extensive as that of the largest heavy cruiser *Salem* to which she now approximates in displacement. She was commissioned on 7 Mar. 1953, to fulfil the same functions as an AGC., i.e. as Operations-Communications-Headquarters Ship, but has more speed, manoeuvrability, armament, and anti-aircraft fire than an AGC. Reported to have been designed to resist atomic attack. Has large installation of newly developed electronic equipment, a vast communications network, an imposing array of electronic antennae, and features one of the largest seaborne radar aerials in the world. She is one deck higher than a normal cruiser to provide for additional office space, and has the tallest unsupported mast afloat (125 feet). Seven months trials to Nov. 1954. First operational assignment was to Atlantic Fleet Amphibious Force as temporary flagship in Nov. 1954. Now serves as Second Fleet flagship.



NORTHAMPTON (port quarter view showing radar arrays)

1959, *Ted Stone*

Gunnery Notes

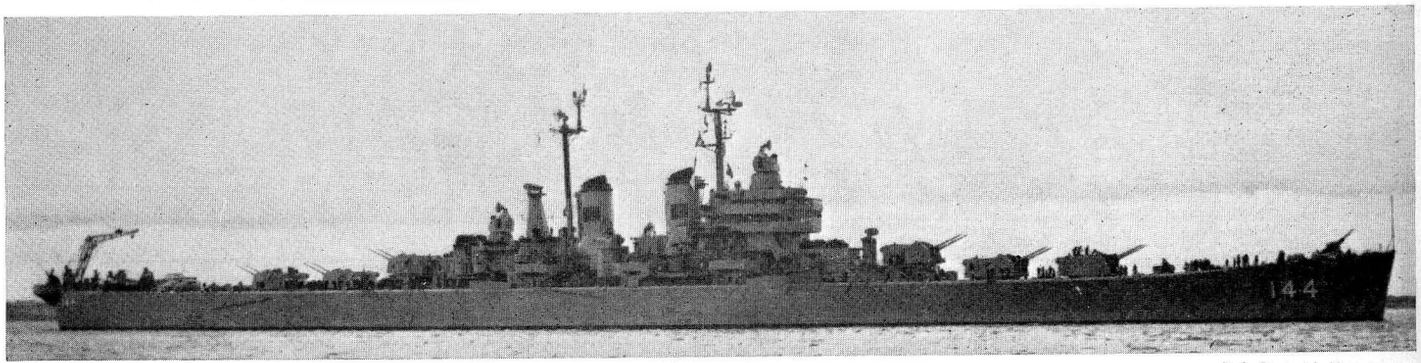
The main armament comprises four 5 inch dual purpose guns of a new model disposed in single turrets, two forward and two aft, " B " and " X " superfiring over " A " and " Y " respectively. They are reported to have a rate of fire of 54 rounds per minute. The anti-aircraft battery includes eight 3 inch weapons, also of a new pattern, disposed in twin turrets, two on each side amidships abreast the funnel.

Photograph Notes

A starboard bow oblique aerial view of *Northampton* appears in the 1957-58 edition. and a starboard broadside silhouette view in the 1958-59 and 1959-60 editions.

Notes to Drawing

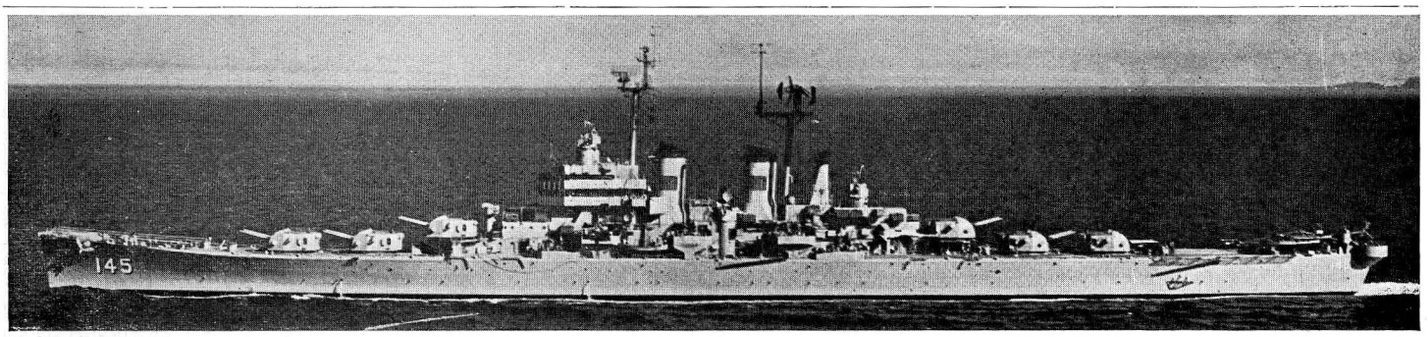
Port elevation and plan of *Northampton* drawn 1954 to a scale of 128 feet=1 inch. The forward 5 inch gun is actually off the centre line **to** starboard.



WORCESTER (starboard broadside) see next page

B. L. Devenish-Meares

LIGHT CRUISERS (CL)

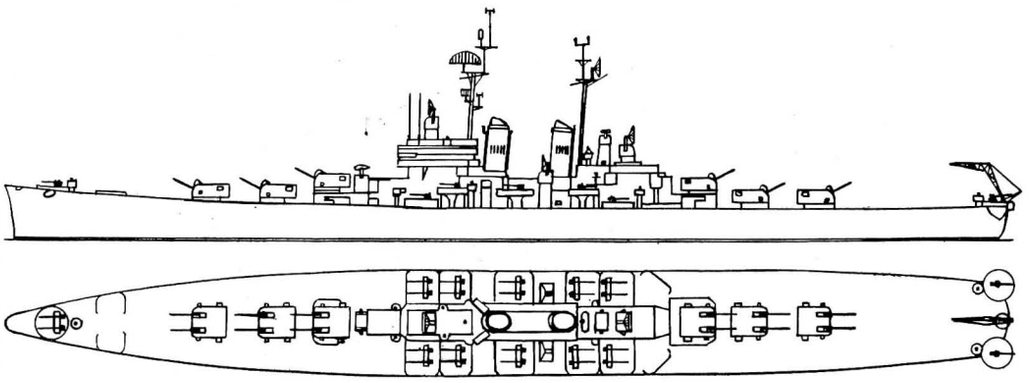


ROANOKE

1958, *U.S. Navy, Official*

2 " Worcester " Class

	ROANOKE	WORCESTER
Name:	*Roanoke*	*Worcester*
No.:	CL 145	CL 144
Builders:	New York Shipbuilding Corporation	New York Shipbuilding Corporation
Laid down:	15 May 1945	29 Jan. 1945
Launched:	16 June 1947	4 Feb. 1947
Completed:	4 Apr. 1948	25 June 1948



Displacement: 14,700 tons *standard* (18,500 tons *full load*)

Dimensions: Length: 668 (*w.l.*), 679½ (*o.a.*) feet. Beam: 70⅔ feet. Draught: 25 (*max.*) feet

Guns: 12—6 inch. 47 cal., d.p. (semi-automatic), 24—3 inch, 50 cal., c.p. (rapid fire), *Worcester* 18

Aircraft: 1 helicopter

Armour: 6"—3" side, 4" turrets, 3"+2" decks

Machinery: General Electric geared turbines. 4 shafts. S.H.P.: 120,000=32 kts.

Boilers: 8 Babcock & Wilcox

Oil fuel: 3,300 tons

Radius: 12,000 miles at 15 kts.

Complement: 1,170 (70 officers, 1,100 men) (peace), 1,700 (war). *Worcester* carried 1,033 men recently

General Notes

Both ordered on 15 June 1943. Transferred from the Atlantic Fleet to the Pacific Fleet, 1955-56. These ships, which are larger than most heavy cruisers, are nevertheless rated as light cruisers by Treaty definitions. Both decommissioned in 1958-59 at San Francisco.

Gunnery Notes

Both ships have 6 inch dual purpose guns of a new automatic model in six twin turrets, and 3 inch in eleven twin mounts of a new type, and two single mounts.

Class Notes

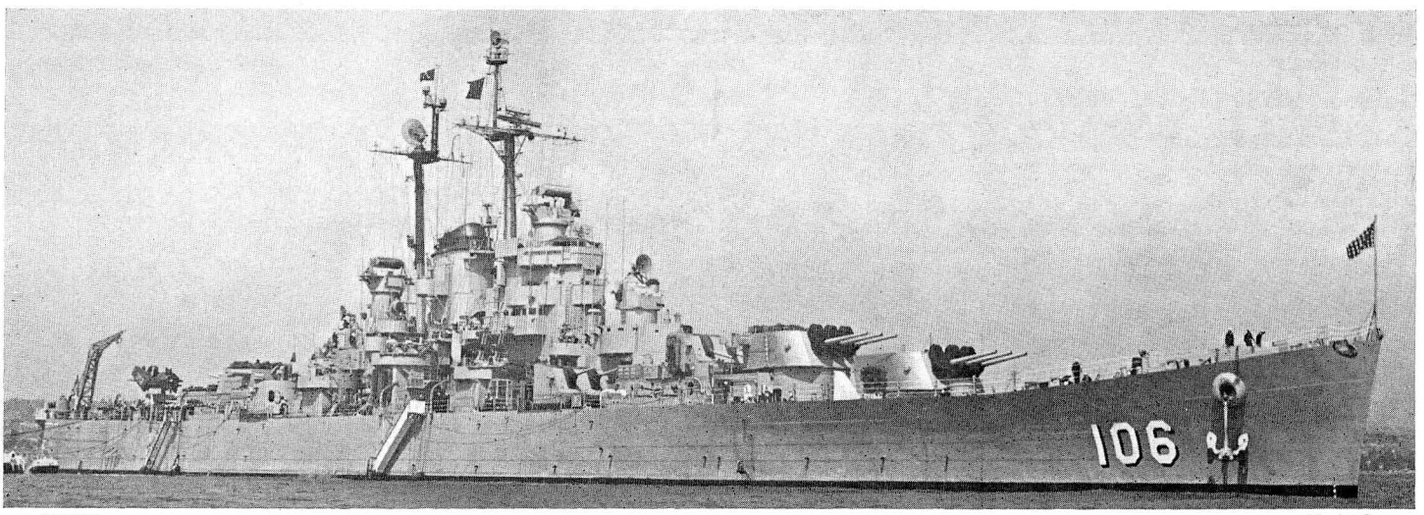
Two incomplete sister ships, *Vallejo* (146) and *Gary* (147) were cancelled on 11 Aug. 1945. Six additional ships, CL 154-159, were cancelled in 1945.

Photograph Notes

Starboard broadside and quarter views of *Worcester* and starboard bow view of *Roanoke* in the 1957-58 edition. Port bow oblique aerial view of *Worcester* in the 1959-60 edition.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

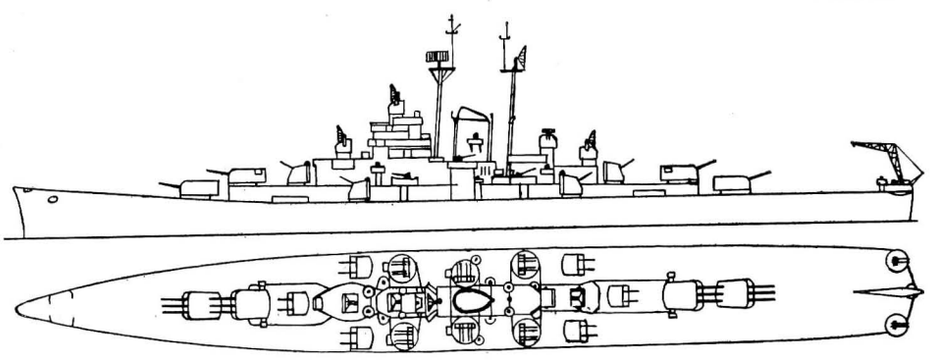


FARGO

Marius Bar

2 " Fargo " Class

	FARGO	HUNTINGTON
Name:	*Fargo*	*Huntington*
No.:	CL 106	CL 107
Builders:	New York Shipbuilding Corpn.	New York Shipbuilding Corpn.
Laid down:	23 Aug. 1943	4 Oct. 1943
Launched:	25 Feb. 1945	8 Apr. 1945
Completed:	9 Dec. 1945	23 Feb. 1946



Displacement: 10,500 tons *standard* (14,055 tons *full load*)

Dimensions: Length: 600 (*w.l.*), 610 (*o.a.*) feet. Beam: 66 feet. Draught (at *normal* displacement): 20 (*mean*), 25 (*max.*) feet

Guns: 12—6 inch, 47 cal. 12—5 inch, 38 cal., d.p., 24—40 mm. AA., 19—20 mm. AA.

Aircraft: 3 seaplanes (originally carried)

Catapults: 2

Armour: Similar to *Cleveland* class

Machinery: General Electric geared turbines 4 shafts. S.H.P.: 100,000=32·5 kts.

Boilers: 8 Babcock & Wilcox

Oil fuel: 2,500 tons

Radius: 9,500 miles at 15 kts.

Complement: 916 (peace), 1,200 (war)

General Notes

In design these two ships are modified versions of the " Cleveland " class with single funnels and simplified superstructures, intended to enlarge the area of fire of the anti-aircraft armament. Both ships are out of commission, in the Atlantic Reserve Fleet.

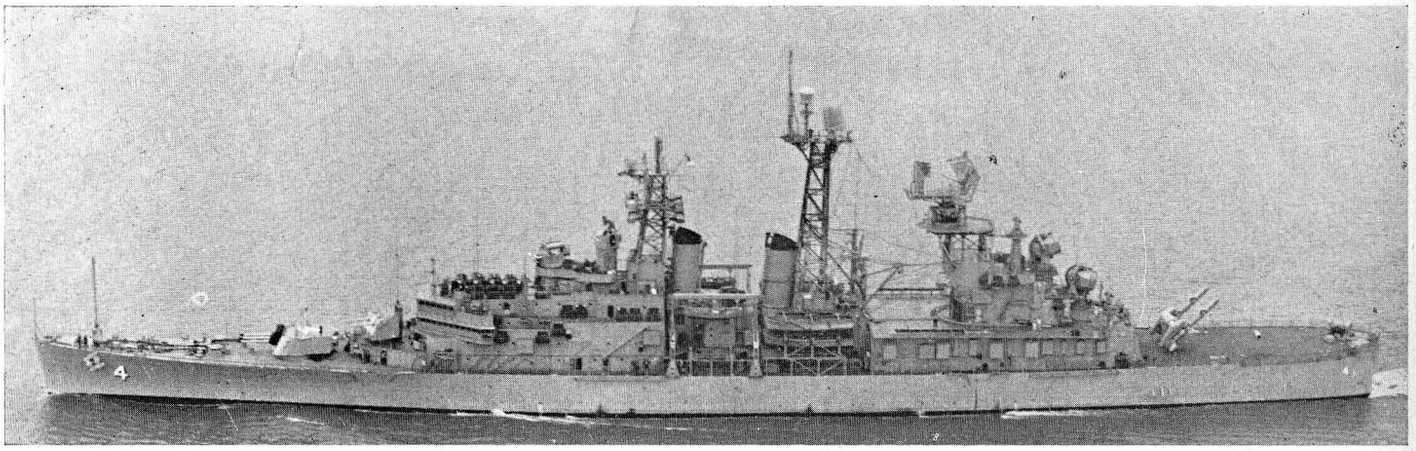
Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch.

Photograph Notes

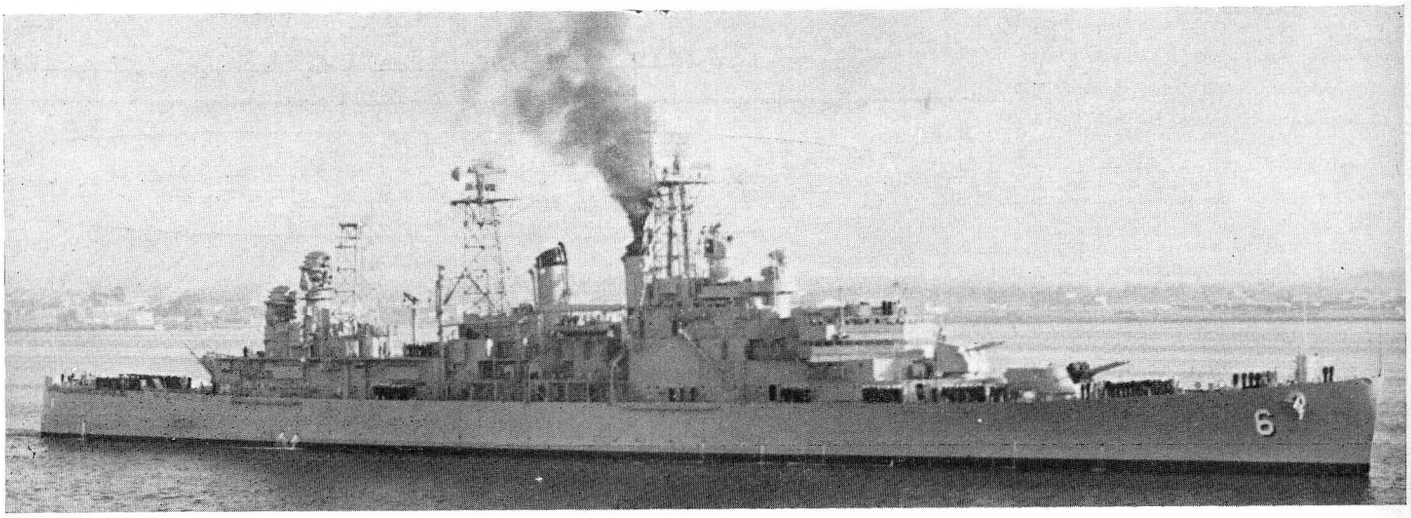
A large starboard bow oblique aerial view of *Fargo* appears in the 1958-59 and earlier editions, and starboard aerial broadside and starboard bow aerial views of *Huntington* in the 1959-60 edition.

Light Cruisers—*continued*



LITTLE ROCK

1960, *United States Navy, Official*



PROVIDENCE

1960, *United States Navy, Official*

Guided Missile Light Cruisers (CLG)

6 Converted "Cleveland" Class

GALVESTON **LITTLE ROCK** **OKLAHOMA CITY**	**PROVIDENCE** **SPRINGFIELD** **TOPEKA**
Displacement:	10,670 tons *standard* (14,600 tons *full load*)
Dimensions:	Length: 600 (*w.l.*), 610 (*o.a.*) feet Beam: 66 feet. Draught: 25 (*max.*) feet
Guns:	*Galveston:* 6—6 inch, 47 cal.; 6—5 inch, 38 cal. d.p. *Little Rock, Oklahoma City* and *Providence;* 3—6 inch, 47 cal.; 2—5 inch, 38 cal. d.p. *Topeka:* 6—5 inch, 38 cal. in twin mounts.
Guided Missiles:	*Galveston, Little Rock, Oklahoma City:* One "Talos" twin launcher aft, with 46 missiles. *Providence, Springfield, Topeka:* One "Terrier" twin launcher aft with 120 missiles.
A/S weapons:	Launchers for ASW torpedoes
Armour:	5" belt, 5" decks, 5"—3" gunhouses
Machinery:	General Electric geared turbines. 4 shafts. S.H.P.: 100,000=33 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	2,100 tons
Radius:	7,500 miles at 15 kts.
Complement:	1,070 (70 officers and 1,000 enlisted men)



GALVESTON (aerial view off starboard quarter)

1959, *United States Navy, Official*

General Notes

These six former light cruisers of the "Cleveland" class (CL) were converted into guided missile light cruisers (CLG), *Galveston* under the 1956 Fiscal program and the other five under the 1957 Fiscal program. They have a conventional armament forward, and amidships, and guided missile launchers aft, three being armed with "Terrier" missiles and three with "Talos" missiles.

Flagship Notes

Little Rock, Oklahoma City, Providence and *Springfield* have been refitted as flagships, the navigating bridge and forward superstructure being reconstructed to provide for flag spaces and to include high frequency radio systems with side band capability. Other work, such as improvement of habitability, has also been done in conjunction with the installation of missile capabilities. *Springfield* becomes the flagship of the Sixth Fleet in late 1960.

Construction Notes

For builders and dates of laying down, launch, and original completion, see table on next page under "Vincennes" class.

Guided Missile Notes

The Bendix "Talos" ramjet-powered surface-to-air missile, the principal armament in the *Galveston*, has a range of more than 65 miles and is able to carry a nuclear warhead. See full notes under "Long Beach", the nuclear powered guided missile cruiser under construction, on a previous page.

Torpedo Notes

The guided missile conversions are to be fitted with torpedo launchers for anti-submarine warfare torpedoes.

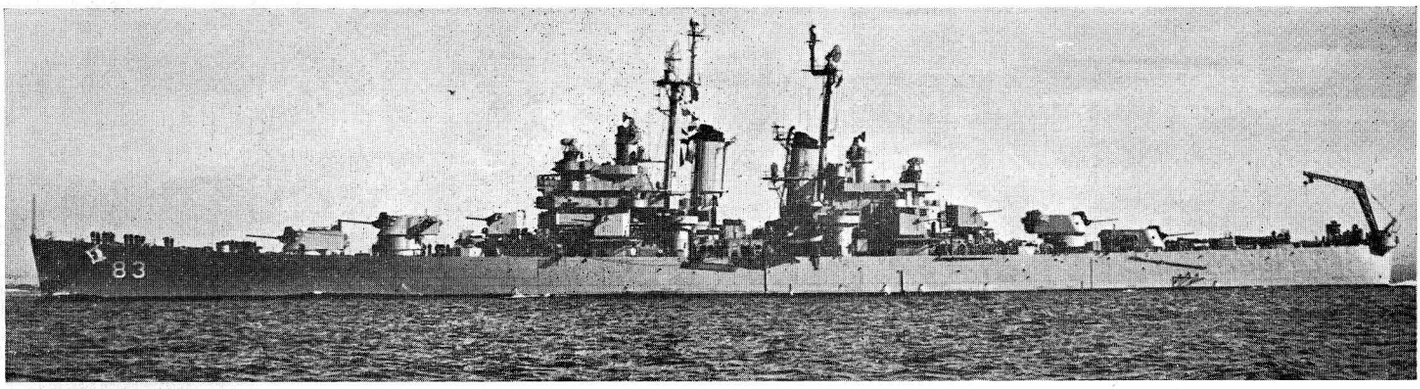
Conversion Notes

Galveston, formerly CL 93, was converted to a guided missile light cruiser at Philadelphia Naval Shipyard. She was reclassified CLG 93 on 4 Feb. 1956, and CLG 3 on 23 May 1957. Conversion began on 15 Aug. 1956 and was completed on 5 Sep. 1958 (commissioned 28 May 1958). *Topeka* was converted at New York Naval Shipyard; *Oklahoma City* at Bethlehem Pacific Coast Steel Corp., San Francisco, Calif.; *Little Rock* at New York Shipbuilding Corp., Camden, N.J.; and *Providence* at Boston Naval Shipyard. *Providence, Springfield* and *Topeka* carry "Terrier" guided missiles and *Little Rock* and *Oklahoma City* carry "Talos" guided missiles. *Providence* conversion began 1 June 1957, and was completed on 30 Sep. 1959 (commissioning date 17 Sep. 1959). *Topeka* conversion began on 19 Aug. 1957 and was completed on 13 Mar. 1960 (commissioning date 26 Mar. 1960). *Little Rock* conversion began on 30 Jan. 1957 and she was commissioned on 3 June 1960. *Oklahoma City* began conversion on 21 May 1957 and was delivered to the Navy on 31 Aug. 1960. *Springfield* conversion began on 1 Aug. 1957 at Bethlehem Steel Co., Quincy, Mass., but she was moved to Boston Naval Shipyard on 22 Mar. 1960 for completion and commissioned on 2 July 1960.

Photograph Notes

Port broadside and starboard bow views of *Galveston* and starboard bow view of *Providence* (Addenda) appear in the 1959-60 edition.

Light Cruisers—*continued*

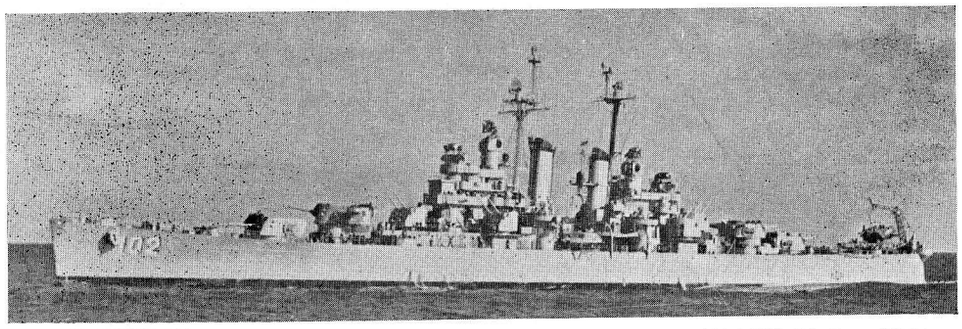


MANCHESTER (surface view off port beam) 1959, *Ted Stone*

Light Cruisers (CL)

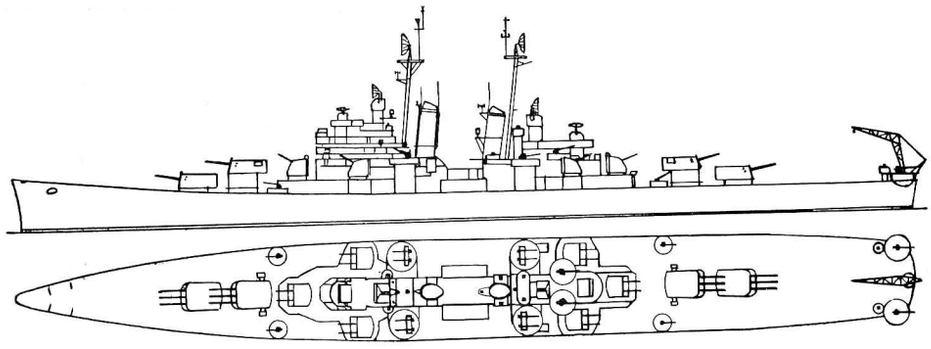
11 "Vincennes" Class

AMSTERDAM
ASTORIA
(ex-*Wilkes-Barre*)
ATLANTA
BILOXI
DAYTON
MIAMI
PASADENA
PORTSMOUTH
VICKSBURG (ex-*Cheyenne*)
VINCENNES (ex-*Flint*)
WILKES-BARRE



PORTSMOUTH *Added 1957, U.S. Navy, Official*

Displacement:	10,500 tons *light* (13,755 tons *full load*)
Dimensions:	Length: 600 (*w.l.*), 610 (*o.a.*) feet. Beam: 66 feet. Draught: 20 (*mean*), 25 (*max.*) feet
Guns:	12—6 inch, 47 cal., 12—5 inch, 38 cal. (d.p.), paired, 24 to 28—40 mm. AA., 19—20 mm. AA.
Aicraft:	3
Catapults:	1 or 2
Armour:	5"-1½" side, 3"×2" decks, 5"-3" gun-houses
Machinery:	General Electric geared turbines 4 shafts. S.H.P.: 100,000=33 kts.
Boilers:	8 Babcock & Wilcox
Oil fuel:	2,100 tons
Range:	7,500 miles at 15 kts.
Complement:	916 (peace), 1,200 (war)



General Notes

This was the largest group of cruisers of a single design ever put in hand. Nine originally ordered from New York Shipbuilding Corporation were converted into aircraft carriers of the "Independence" class. The *Birmingham* was torpedoed on 8 Nov. 1943; was again severely damaged when the *Princeton* blew up alongside her in Oct. 1944; and was nearly sunk by a Japanese suicide aircraft whose bomb penetrated three of her decks off Okinawa on 4 May 1945. The *Houston* was heavily damaged by a torpedo from a Japanese aircraft off Formosa in Oct. 1944. All the survivors of this class except those converted to guided missile cruisers are out of commission. (See names of stricken ships of this class under *Recent Disposals* below.)

No.	*Name*	*Builders*	*Laid down*	*Launched*	*Completed*
CL 103	*Wilkes-Barre*	New York S.B. Corpn.	14 Dec. 1942	24 Dec. 1943	1 July 1944
CL 104	*Atlanta*		25 Jan. 1943	6 Feb. 1944	3 Dec. 1944
CL 105	*Dayton*		8 Mar. 1943	19 Mar. 1944	7 Jan. 1945
CL 64	*Vincennes*		7 Mar. 1942	17 July q943	21 Jan. 1944
CL 65	*Pasadena*		6 Feb. 1943	28 Dec. 1943	8 June 1944
CLG 7 (ex-CL 66)	*Springfield*	Bethlehem Co., Quincy	13 Feb. 1943	9 Mar. 1944	8 Sep. 1944
CLG 8 (ex-CL 67)	*Topeka*		21 Apr. 1943	19 Aug. 1944	23 Dec. 1944
CLG 6 (ex-CL 82)	*Providence*		27 July 1943	28 Dec. 1944	15 May 1945
CL 89	*Miami*	Cramp S.B. Co.	2 Aug. 1941	8 Dec. 1942	28 Dec. 1943
CL 90	*Astoria*		6 Sep. 1941	6 Mar. 1943	17 May 1944
CLG 5 (ex-CL 91)	*Oklahoma City*		8 Mar. 1942	20 Feb. 1944	22 Dec. 1944
CLG 4 (ex-CL 92)	*Little Rock*		6 Mar. 1943	27 Aug. 1944	17 June 1945
CLG 3 (ex-CL 93)	*Galveston*		20 Feb. 1944	22 Apr. 1945	25 May 1946
CL 80	*Bolixi*	Newport News Co.	9 July 1941	23 Fe.b 1943	21 Aug. 1943
CL 86	*Vicksburg*		26 Oct. 1942	14 Dec. 1943	12 June 1944
CL 101	*Amsterdam*		3 Mar. 1943	25 Apr. 1944	8 Jan. 1945
CL 102	*Portsmouth*		28 June 1943	20 Sep. 1944	25 June 1945

Appearance Notes

First seven ships (CL 55-58, 60, 62, 63) had round bridge fronts. Remaining 11 ships of this class have a rectangular piot house with a walk around the front.

Class Notes

Galveston, *Little Rock*, *Oaklahoma City*, *Providence*, *Springfield* and *Topeka* of this class have been converted to guided missile light cruisers (see previous page).

Photograph Notes

Starboard aerial view of *Birmingham*, port bow view of *Oklahoma City* and four photographs of "Terrier" guided missiles in the 1957-58 edition. Port bow view of *Manchester* in the 1958-59 and earlier editions. Photograph of "Talos" missile on launcher in the Addenda of the 1958-59 edition.

Reclassification Note

CLG 93 and CLs 92, 91, 82, 66 and 67 were reclassified as CLGs 3, 4, 5, 6, 7 and 8, respectively on 23 May 1957.

Notes to Drawing

Port elevation and plan. Scale: 128 feet=1 inch. The cranes abreast the after funnel have been removed.

Conversion Notes

In addition to those marked CLG it is reported that *Vincennes* (CL 64), *Miami* (CL 89), *Astoria* (CL 90), *Amsterdam* (CL 101) and *Altanta* (CL 104) will eventually be converted to guided missile cruisers (CLGs). Action has been postponed on the conversion of a guided missile cruiser under the 1960 conversion programme.

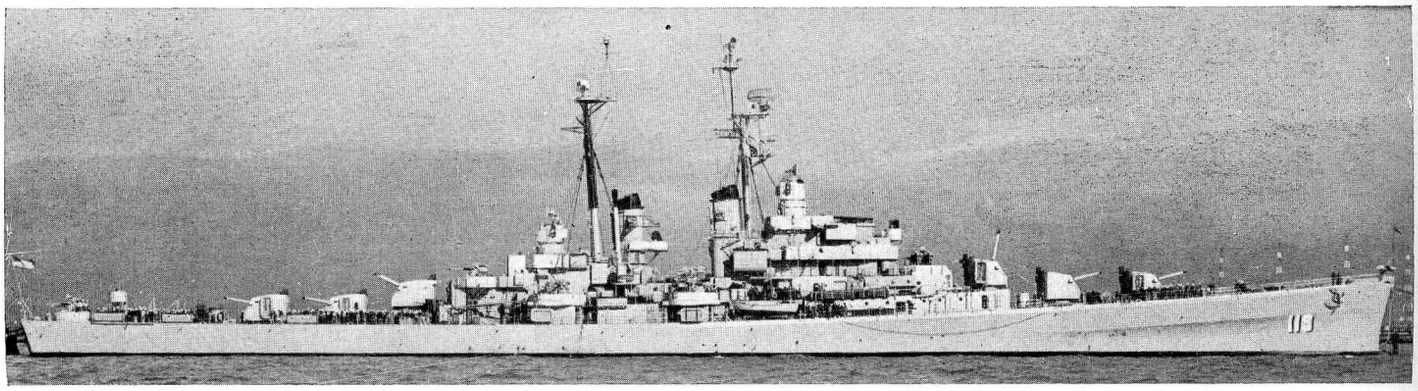
Recent Disposals

Birmingham, CL 62, *Cleveland*, CL 55, *Columbia*, CL 56, *Denver*, CL 58, *Houston*, CL 81, *Mobile*, CL 63, *Montpelier*, CL 57 and *Santa Fe*, CL 60, of the "Cleveland" class, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959). *Duluth*, CL87, was stricken on 1 Jan. 1960 and *Manchester*, CL 83, at the end of 1960.

Recent Disposals of "Brooklyn" Class

Honolulu, CL 48, and *Savannah*, CL 42, of the "Brooklyn" class, were also stricken on 1 Mar. 1959, to be scrapped.

ANTI-AIRCRAFT CRUISERS (CLAA)



JUNEAU

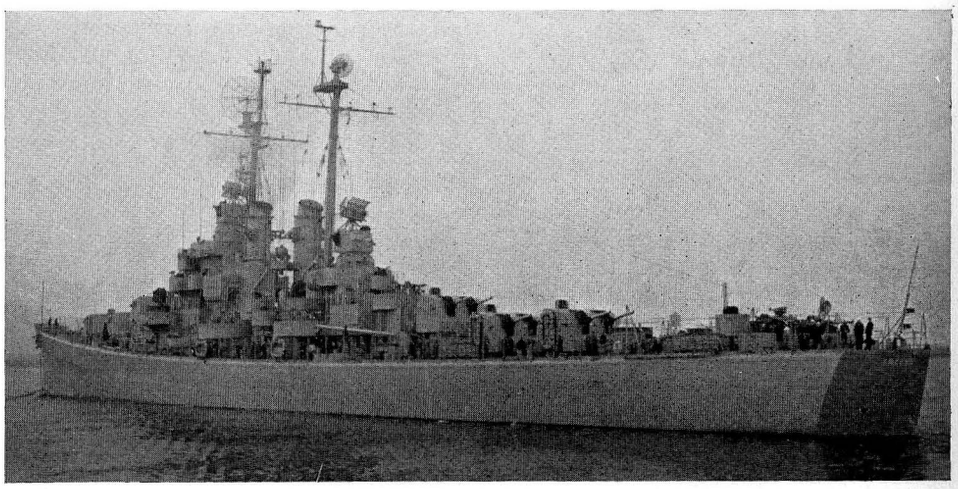
1952, *Photo, U.S. Navy, Official*

4 " Juneau " Class

FLINT (ex-*Spokane*) **SPOKANE**

FRESNO **TUCSON**

Displacement:	6,000 tons *standard* (8,200 tons *full load*)
Dimensions:	Length: 541 feet. Beam: 52⅝ feet. Draught: 20 (*mean*), 25 (*max.*) feet
Guns:	12—5 inch, 38 cal. (d.p.), 24 to 32—40 mm. AA. 12 to 16—20 mm. AA. (*Juneau* 14—3 inch in place of 40 mm. and 20 mm.)
Aircraft:	*Juneau* carried a helicopter
Armour:	3½" side, 2" deck
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 75,000=35 kts. (*designed*). Rated speed in service is not above 32 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	1,450 tons
Radius:	7,500 miles at 15 kts.
Complement:	579 (peace), 700 (war)



FRESNO

Added 1957, *U.S. Navy, Official*

General Notes

Originally rated as light cruisers (CL). All recategorised as anti-aircraft cruisers (CLAA). Arrangement of main armament forward and aft is reminiscent of British " Dido " class. Bridges are reported to be armoured. The 6 earlier ships had 8—21 inch torpedo tubes in quadruple deck mountings which were removed in 1945. With *Juneau* decommissioned in 1955, in Atlantic Reserve Fleet, all this class are out of commission.

Class Notes

Second World War losses: *Atlanta*, *Juneau*. (Two new ships of these names were built, of which the former belongs to the 10,000-ton " Cleveland " class.)

Gunnery Notes

In *Spokane* and *Fresno* (see lower elevation), " B " and " X " turrets were placed a deck lower than in earlier ships (top elevation), and the torpedo tubes were omitted from the original design to improve stability.

Torpedo Notes

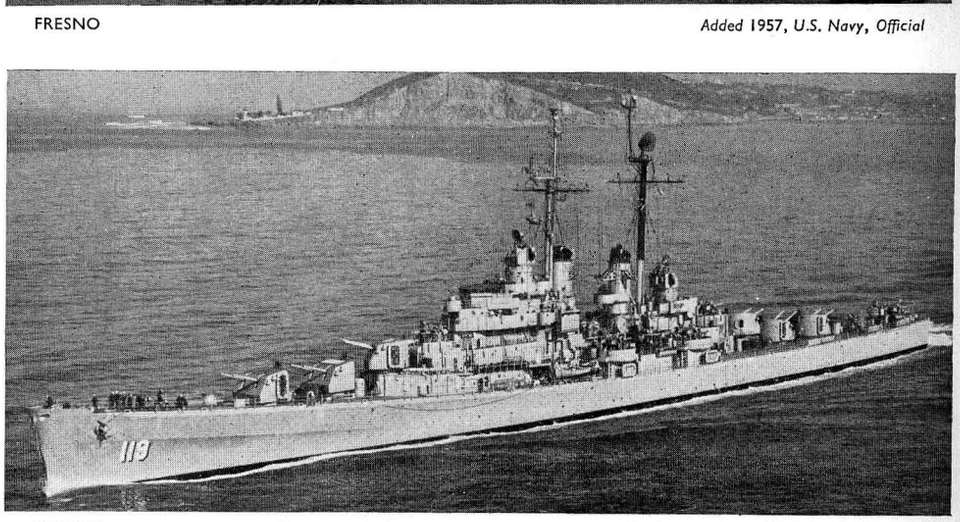
Torpedo tubes have been removed from *Flint* and *Tucson*

Notes to Drawings

Port elevation of *Flint* and *Tucson*. Port elevation and plan of *Fresno* and *Spokane*. Scale: 128 feet=1 inch.

Recent Disposals

Four sister ships of this class, namely the *San Diego*, CLAA 53, *San Juan*, CLAA 54, *Oakland*, CLAA 95 and *Reno*, CLAA 96, were scrapped in 1959 (stricken from the Navy List on 1 Mar. 1959). *Juneau* was stricken on 1 Nov. 1959.

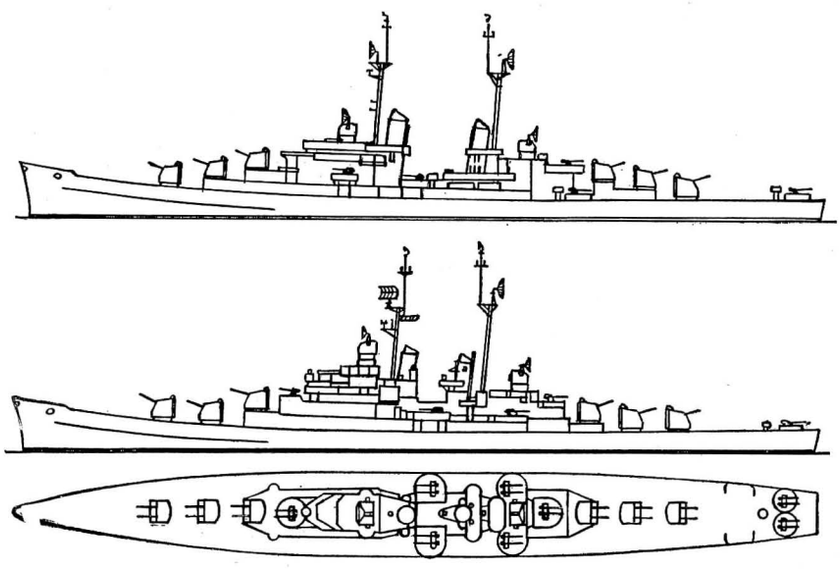


JUNEAU

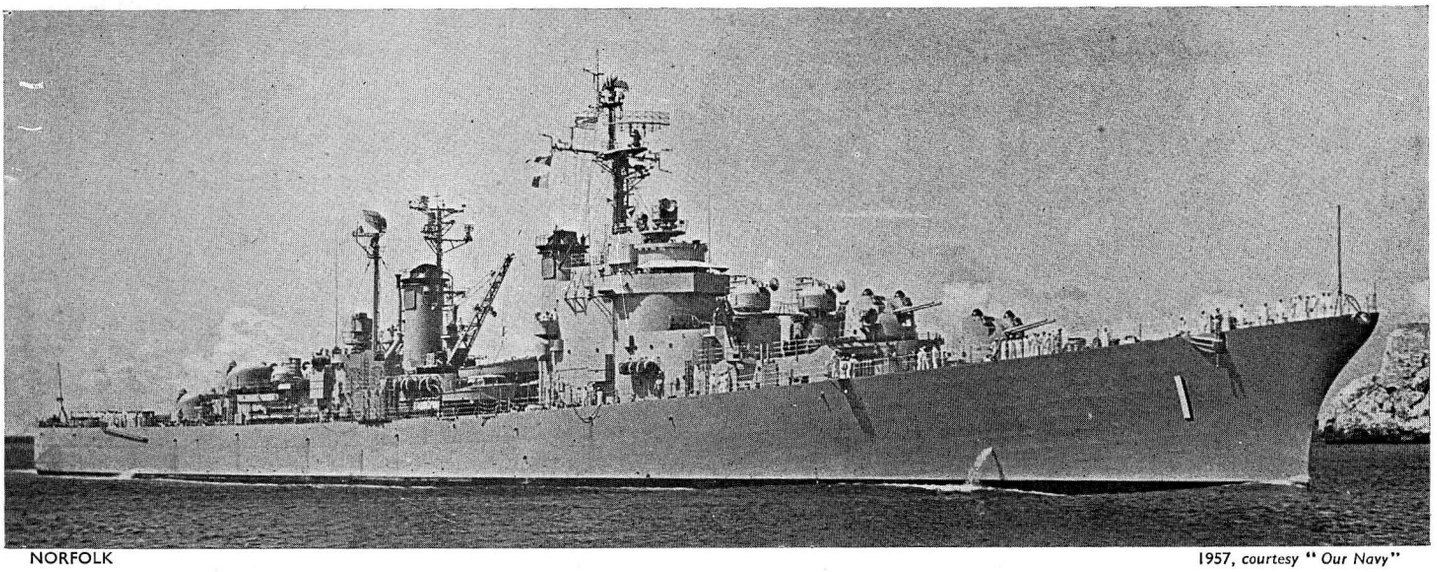
Added 1957, *Ted Stone*

No.	*Name*	*Builders*
CLAA 97	*Flint*	Bethlehem Steel Co., S. Francisco
CLAA 98	*Tucson*	Bethlehem Steel Co., S. Francisco
CLAA 120	*Spokane*	Federal S.B. & D.D. Co., Kearny
CLAA 121	*Fresno*	Federal S.B. & D.D. Co., Kearny

Name	*Laid down*	*Launched*	*Completed*
Flint	23 Oct. 1942	25 Jan. 1944	31 Aug. 1944
Tucson	23 Dec. 1942	3 Sep. 1944	3 Feb. 1945
Spokane	15 Nov. 1944	22 Sep. 1945	17 May 1946
Fresno	12 Feb. 1945	5 Mar. 1946	27 Nov. 1946



DESTROYER LEADER (DL) Former Light Cruiser



NORFOLK 1957, *courtesy "Our Navy"*

Officially rated as **Frigate** (DL) (Formerly rated as *Cruiser, Hunter Killer Ship*, CLK)

1 "Norfolk" Type

NORFOLK

No.:	DL 1 (ex-CLK 1)
Builders:	New York Shipbuilding Corporation, Camden, New Jersey
Ordered:	17 Nov. 1948
Laid down:	1 Sep. 1949
Launched:	29 Dec. 1951
Completed:	4 Mar. 1953
Displacement:	5,600 tons *standard* (7,300 tons *full load*)
Dimensions:	Length: 520 (*w.l.*), 540½ (*o.a.*) feet. Beam: 54½ feet. Draught: 26 (*max.*) feet
Guns:	8—3 inch, 70 cal. (twin mounts);
Tubes:	4 Mark 24
A/S weapons:	ASROC. 4 Mark 108 A.S.W. rocket launchers. 8—21 inch fixed torpedo tubes
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 80,000=32 kts. (34 kts. *max.*)
Boilers:	4 Babcock & Wilcox 2 drum, 1,200 lb. per sq. in. pressure, 950 deg. F.
Oil fuel:	1,400 tons
Radius:	7,000 miles at 15 kts.
Complement:	480

General Notes

Designed as a special category of anti-submarine vessel of cruiser size and entirely novel type to engage in hunter killer operations even in the worst weather, and incorporates lessons learned at Bikini in her construction. Built on a true cruiser hull. Cost, exclusive of armament, reported to be $44,000,000. Re-rated in 1951 as a Destroyer Leader (DL), a category new to the U.S. Navy, but reclassified as a Frigate (DL) on 1 Jan. 1955. Fitted with newly developed communications equipment including radar, sonar, and electronics gear. Will serve as flagship for destroyer screens attached to fast carrier forces.

Anti-Submarine Notes

Used primarily as a test ship for new anti-submarine warfare equipment. The largest and heaviest sonar dome (39,500 lbs., or nearly 18 tons) was installed at Norfolk Naval Shipyard in 1958.

Fitted with ASROC (anti-submarine rocket) and has successfully completed evaluation of this new weapon. The ASROC system consists of an integrated sonar device, an electrical digital fire-control computer, an eight missile launching device, and the ASROC missiles themselves. Either a rocket propelled torpedo or depth charge can be fired from the launcher.

Gunnery Notes

The 8—20 mm. AA. guns (twin mounts) have been removed.

Engineering Notes

The trial speed is reported to have exceeded 34 knots. (35 knots reached.) Shafts fitted with six-bladed propellers.

Appearance Notes

Has hull form resembling that of the cruisers of the "Juneau" class, with tall bridge structure and curved stem. Note her bow view similarity to "Mitscher" class, though she is a much larger ship.

Photograph Notes

Stern cleared for anti-submarine helicopter operations. A starboard bow oblique aerial view appears in the 1959-60 edition, and a starboard quarter view in the 1957-58 to 1959-60 editions.

Class Notes

Two Hunter Killer Ships were authorised in 1947. *Norfolk* (originally CLK 1), subsequently DL-1 (Destroyer Leader), was commissioned for service on 4 March 1956. The construction of her sister ship, CLK 2, was deferred in 1949.

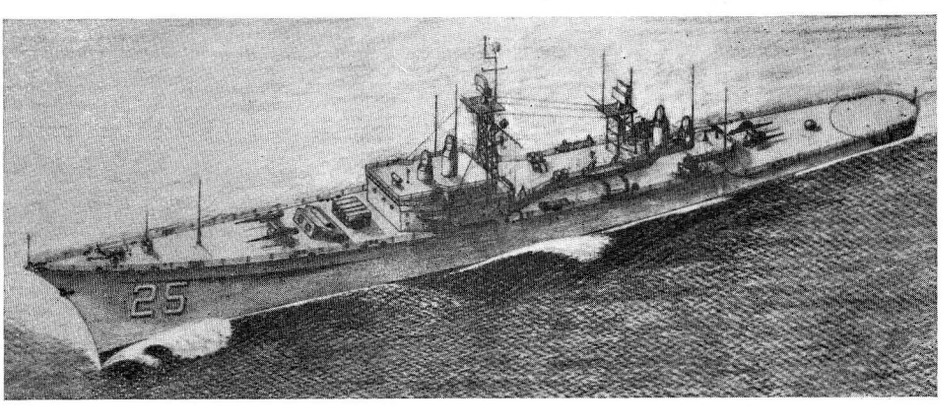
GUIDED MISSILE DESTROYER LEADER DLG (N)

Officially Rated as

Nuclear Powered

Guided Missile Frigate (DLGN)

1 New Construction



BAINBRIDGE (engineer's sketch) 1959, *United States Navy, Official*

BAINBRIDGE

No.:	DLGN 25
Builders:	Bethlehem Steel Company, Quincy, Massachusetts
Laid down:	15 May 1959
Launch:	1960 (estimated)
Completion:	1962 (estimated)
Displacement:	6,500 tons *standard* (7,600 tons *full load*)
Dimensions:	Length: 550 feet Beam: 56 feet (see *General Notes*) Draught: 20 feet
Guided missiles:	2 Advanced "Terrier" surface-to-air twin launchers, mounted fore and aft
Guns:	2—3 inch, 50 cal. AA. (twin) amidships
Tubes:	6
A/S weapons:	Rocket launchers
Machinery:	2 pressurised water cooled D1G nuclear reactors. Geared turbines. 2 shafts. S.H.P.: Over 60,000=over 30 kts.
Range:	100,000 to 150,000 miles
Complement:	450

General Notes

Requested in the Fiscal Year 1959 new construction program. First nuclear powered warship of the destroyer type ever to be built in the world. $35,000,000 appropriated for the nuclear power plant, $10,000,000 for early work on design and hull. Total cost $108,000,000.

America's first nuclear powered guided missile frigate is named after Commodore William Bainbridge, hero of the Tripoli War and the War of 1812.

She is scheduled to be delivered to the Navy in 1962. In addition to her guided missiles she will carry anti-submarine weapons and conventional armament.

This vessel will mount all the weapons and equipment of the conventionally powered guided missile frigates in a slightly bigger hull, which has been reported to be 540 feet in length with a beam of 66 feet. She is bigger than the light cruisers of the "Juneau" class.

Photograph Notes

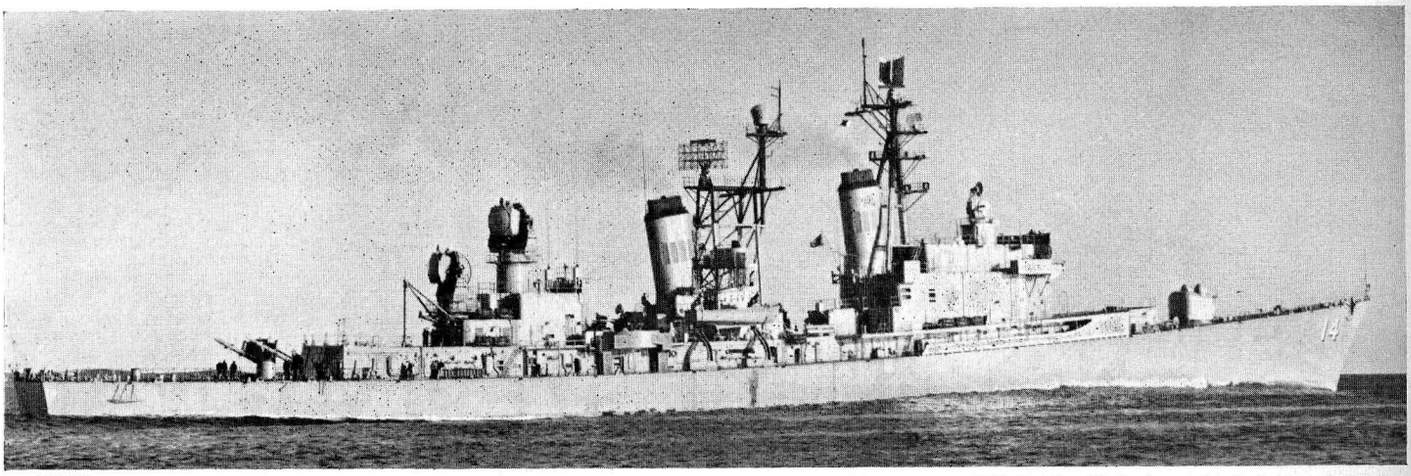
An artist's impression appears in the 1959-60 edition.

Engineering Notes

The nuclear power plant is being built by the General Electric Co., West Mlitон, N.Y. The ship will have a much greater cruising range at sustained high speeds than conventionally powered frigates.

The use of nuclear propulsion will give her many advantages. Some of these are the tactical flexibility of steaming at high speeds for long periods of time without the necessity for refuelling and the elimination of smoke stacks and air intakes for blowers (fans), providing greater protection for personnel against the danger of atomic fall-out. Also the elimination of smoke stacks will permit the use of better radar and communication antennae located for optimum performance and free from the deteriorating effects of stack fumes.

GUIDED MISSILE DESTROYER LEADERS (DLG)



DEWEY — 1960, *Bath Iron Works Corporation, Bath, Maine (Builders)*

Officially Rated as
Guided Missile Frigates (DLG)
10 " Coontz " Class

COONTZ
DAHLGREN
DEWEY
FARRAGUT
KING
LUCE (ex-*Dewey*)
MACDONOUGH
MAHAN
PREBLE
WILLIAM V. PRATT

Displacement:	3,900 tons *standard* (5,600 tons *full load*)
Dimensions:	Length: 512½ (*w.l.*), 520 (*o.a.*) feet. Beam: 54½ feet. Draught: 20 feet
Guns:	*Coontz*: 2—5 inch rapid fire single mounts forward; 4—3 inch rapid fire (two twin mounts port and starboard); others 1—5 inch, 54 cal. d.p. forward; 4—3 inch, 50 cal.
Guided missiles:	One twin launcher aft. 40 advanced " Terrier " missiles (" Terrier III ").
Tubes:	6—21 inch fixed torpedo launchers (two triple nests)
A/S weapons:	2 Mark 108 ASW rocket launchers (ASROC), Weapon " Able " Hedgehog, ASW torpedoes
Machinery:	Geared turbines, 2 shafts. S.H.P.: 80,000 or 85,000=34 kts. (see *Engineering Notes*)
Boilers:	4 (1,200 lbs. pressure)
Complement:	320 (20 officers, 300 men)

No.	*Name*	*Builders*	*Engineers*	*Laid down*	*Launched*	*Completed*
DLG 6	*Farragut*	Bethlehem, Quincy	De Laval	3 June 1957	18 July 1958	1960*
DLG 7	*Luce*	Bethlehem, Quincy	De Laval	1 Oct. 1957	11 Dec. 1958	1960*
DLG 8	*Macdonough*	Bethlehem, Quincy	De Laval	15 Apr. 1958	9 July 1959	1960*
DLG 9	*Coontz*	Puget Sound Naval Shipyard	Allis Chalmers	2 Jan. 1957	6 Dec. 1958	15 July 1960
DLG 10	*King*	Puget Sound Naval Shipyard	Allis Chalmers	2 Jan. 1957	6 Dec. 1958	17 Nov. 1960*
DLG 11	*Mahan*	San Francisco Naval Shipyard	Allis Chalmers	29 July 1957	7 Oct. 1959	28 Nov. 1960*
DLG 12	*Dahlgren*	Philadelphia Naval Shipyard	Allis Chalmers	1 Mar. 1958	16 Mar. 1960	6 Feb. 1961*
DLG 13	*William V. Pratt*	Philadelphia Naval Shipyard	Allis Chalmers	1 Mar. 1958	16 Mar. 1960	5 June 1961*
DLG 14	*Dewey*	Bath Iron Works, Bath, Maine	De Laval	10 Aug. 1957	30 Nov. 1958	7 Dec. 1959
DLG 15	*Preble*	Bath Iron Works, Bath, Maine	De Laval	16 Dec. 1957	23 May 1959	9 May 1960

* Dates are official estimates

General Notes

Guided missile ships of the destroyer leader or large frigate category. Improved versions of the original destroyer leaders (afterwards re-rated as frigates) of the " Mitscher " type. Designed to destroy air targets. These ships will also have anti-submarine and airborne early warning capabilities. They will be used primarily as anti-aircraft and anti-submarine warfare ships. They will also screen high speed task forces, support amphibious operations and be capable of operating independently. The *light* displacement is officially stated to be 3,900 tons. *Dewey* will be the first ship equipped with the *advanced* " Terrier " missile, which supersedes the present " Terrier " which has been in service in the Fleet since Jan. 1956. *Coontz*, *Farragut*, *King*, *Luce*, *Macdonough* and *Mahan* were provided for under the Fiscal 1956 program appropriations; *Dahlgren*, *William V. Pratt*, *Dewey* and *Preble* are provided for under the 1957 program appropriations. DLG 7, the ship which it was originally announced would be named *Dewey* was renamed *Luce* in 1957. Cost $51,000,000 each.

Engineering Notes

Coontz, *King*, *Mahan*, *Dahlgren* and *William V. Pratt* have two sets of Allis-Chalmers-Fork geared turbines of high speed and light weight working at a pressure of 12,000 lbs per sq. inch and a temperature of 940 degrees Fahrenheit with superheated steam and developing 85,000 shaft horse power. *Farragut*, *Luce*, *Macdonough*, *Dewey* and *Preble* have De Laval turbines of 80,000 S.H.P.

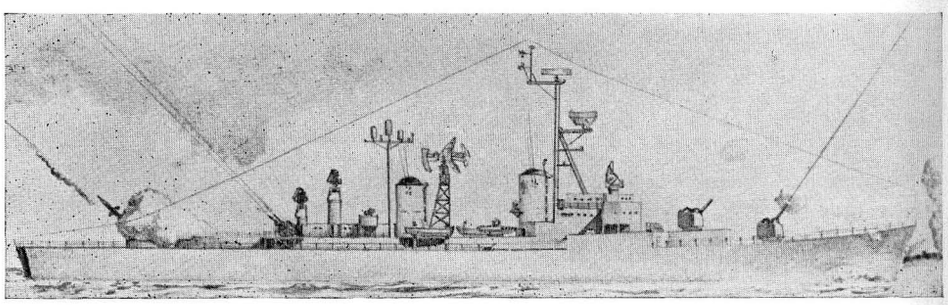
Officially Rated as
Guided Missile Frigates (DLG)
9 Modified " Coontz " Class

LEAHY
HARRY E. YARNELL
WORDEN
DALE
DLG 20
GRIDLEY
DLG 22
HALSEY
REEVES

Displacement:	5,670 tons *standard*, 6,350 tons *trial* (7,000 tons *full load*)
Dimensions:	Length: 535 (*o.a.*) feet Beam: 53½ feet Draught: 17½ feet
Guided missiles:	2 " Terrier " surface-to-air twin launchers, mounted fore and aft
Guns:	2—3 inch, 50 cal. AA. (twin) amidships
A/S weapons:	Anti-submarine warfare equipment
Machinery:	Geared turbines. 2 shafts. S.H.P.: 85,000=34 kts.
Boilers:	4
Complement:	400 (31 officers, 369 men)

General Notes

Very large guided missile destroyer leaders or frigates approaching the light cruiser category. The design is an improvement on that of the " Coontz " class. DLG 16, DLG 17 and DLG 18 were provided for under the Fiscal Year 1958 Program, and DLG 19, DLG 20, DLG 21, DLG 22, DLG 23 and DLG 24 under the Fiscal Year 1959 Program. The Fiscal Year 1958 ships are 900 tons heavier than the original " Coontz " class with " Terriers " fore and aft. DLG 23 and DLG 24 will be of a different class. Three DLGs each of 5,500 tons light displacement were requested in the Fiscal Year 1960 Program, but action was postponed and they are now included in the 1961 Program.



DLG (artist's conception of guided missile frigates) — 1956, *U.S. Navy, Official*

No.	*Name*	*Builders*	*Laid down*	*Launch*	*Completion*
DLG 16	*Leahy*	Bath Iron Works Corp., Maine	3 Dec. 1959	1 Apr. 1961*	Aug. 1962*
DLG 17	*Harry E. Yarnell*	Bath Iron Works Corp., Maine	31 May 1960	Sep. 1961*	Jan. 1963*
DLG 18	*Worden*	Bath Iron Works Corp., Maine	Sep. 1960*	Sep. 1961*	Sep. 1962*
DLG 19	*Dale*	New York S.B. Corp., Camden	Sep. 1960*	Sep. 1961*	Sep. 1962*
DLG 20		New York S.B. Corp., Camden	Jan. 1961	Jan. 1962*	Jan. 1963*
DLG 21	*Gridley*	Puget Sound B. & D. Co., Seattle	15 July 1960*	July 1961*	Jan. 1963*
DLG 22		Todd Shipyards Corp., San Pedro	3 Oct. 1960	Dec. 1961*	Feb. 1963*
DLG 23	*Halsey*	San Francisco Naval Shipyard	Aug. 1960*	Dec. 1961*	Oct. 1962*
DLG 24	*Reeves*	Puget Sound Naval Shipyard	July 1960*	Jan. 1962*	Feb. 1963*

* Dates are official estimates

New Construction Notes

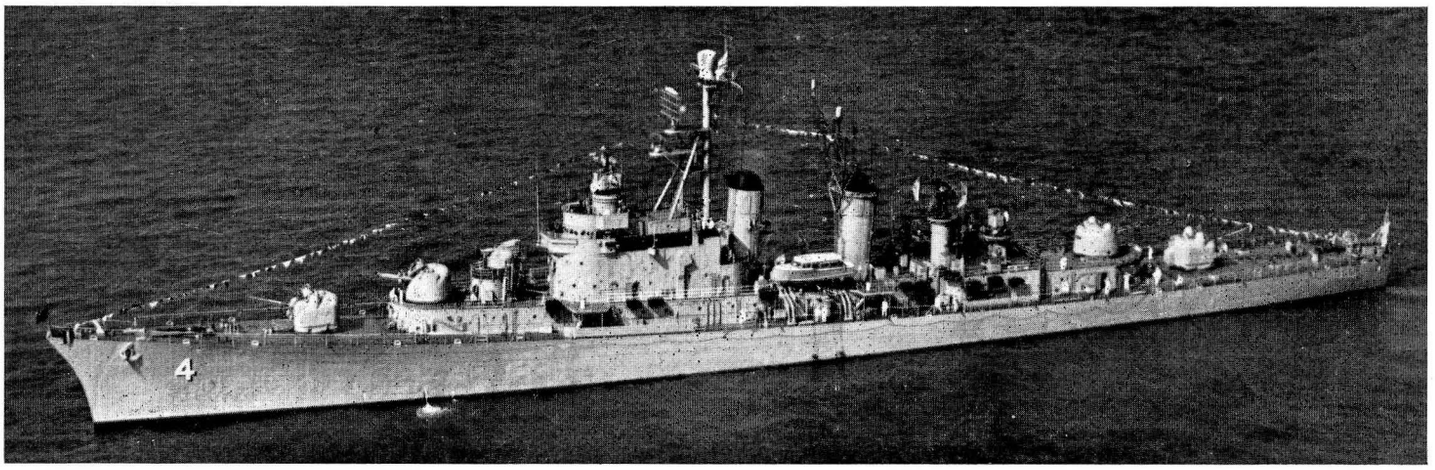
These nine new guided missile frigates are to be of a new class with *Leahy* as the prototype. They will be larger than the " Coontz " class and will mount " Terrier " launchers fore and aft, also conventional weapons, and will carry long range sonar and long and short range anti-submarine weapons.

The total includes three ships from the Fiscal Year 1958 program.

Engineering Notes

The three ships from the Fiscal Year 1958 Program may eventually be nuclear powered.

Destroyer Leaders—*continued*



WILLIS A. LEE

1959, "*Our Navy*" Photo

Officially rated as **Frigates** (DL)

4 " Mitscher " Class

MITSCHER (ex-*DD* 927)
JOHN S. McCAIN (ex-*DD* 928)
WILLIS A. LEE (ex-*DD* 929)
WILKINSON (ex-*DD* 930)

Displacement:	3,675 tons *standard* (4,730 tons *full load*)
Dimensions:	450 (*pp.*), 493 (*o.a.*) × 49 × 21 feet
Guns:	2—5 inch 54 cal. d.p. (single), 4—3 inch, 70 cal. AA. (twin) see *Helicopter Notes.*
A/S weapons:	2 Mark 108 ASW rocket launchers, Weapon " Able," 4—21 inch fixed T.T., 1 D.C.T.
Machinery:	Geared steam turbines. 2 shafts. S.H.P.: 80,000=35 kts.
Boilers:	DL 2, DL 3: 4 Combustion Engineering, controlled circulation type, 1,225 lb. per sq. in. pressure 950 deg. F. superheat. DL 4, DL 5; 4 Foster Wheeler, 2 drum type, 1,200 lb. per sq. in. pressure, 965 deg. F. superheat
Complement:	322 (peace), 440 (war)

General Notes

DL 2—5 were begun as Destroyers (DD), but were re-rated as Destroyer Leaders (DL) while building in 1951 and again re-rated as Frigates (DL) on 1 Jan. 1955. The largest destroyers ever built in the United States and in the world. Larger than some ships rated as light cruisers in other countries. Cost $29,500,000 each exclusive of armament. Of a new design specifically constructed as a long-range fleet type for both administrative and anti-submarine duties. Authorised February 1948. All ordered 3 August 1948. Named after United States admirals of the second World War. Carry the latest surface, underwater and anti-aircraft weapons. Equipped with newly developed electronic devices for hunter killer missions. Propelling machinery, of light weight, includes many advanced engineering features not previously installed in fighting ships, to give sea speeds of 32 to 35 knots. Used as flagships or leaders of destroyer flotillas.

Gunnery Notes

Two 5 inch guns are fully automatic loading, rapid fire, radar controlled. Newer longer range 3 inch, 70 cal. mountings were installed in 1957-58 in place of the former 3 inch, 50 cal. guns. The four 20 mm. AA. (twin) guns have been removed (see *Helicopter Notes*).

Engineering Notes

DL 2, DL 3: 2 General Electric, turbine reduction type. Main reduction gears: General Electric double reduction. DL 4, DL 5: 2 Westinghouse, turbine reduction type. Main reduction gears: De Laval double reduction.



MITSCHER (helicopter aft)

1960, *United States Navy, Official*

No	*Name*	*Builders*	*Engineers*	*Laid down*	*Launched*	*Completed*
DL 2	*Mitscher*	Bath Iron Works Corpn.	General Electric	3 Oct. 1949	26 Jan. 1952	16 May 1953
DL 3	*John S. McCain*	Bath Iron Works Corpn.	General Electric	24 Oct. 1949	12 July 1952	12 Oct. 1953
DL 4	*Willis A. Lee*	Bethlehem, Quincy	Westinghouse	1 Nov. 1949	26 Jan. 1952	28 Sep. 1954
DL 5	*Wilkinson*	Bethlehem, Quincy	Westinghouse	1 Feb. 1950	23 Apr. 1952	29 July 1954

Helicopter Notes

Stern cleared for anti-submarine helicopter operations. *John S. McCain* and *Mitscher* completed DASH installation in Apr. 1960, including removal of after guns to make way for 50 × 30 ft. landing platform and hangar for 2 drone anti-submarine helicopters

Photograph Notes

Starboard broadside view of *Willis A. Lee* and port bow view of *Wilkinson* in the 1957-58 edition. Port broadside view of *John S. McCain* and starboard quarter view of *Mitscher* in the 1957-58 to 1959-60 editions. Port bow oblique aerial view of *Wilkinson* in the 1959-60 edition.

NUCLEAR POWERED DESTROYER DD (N)

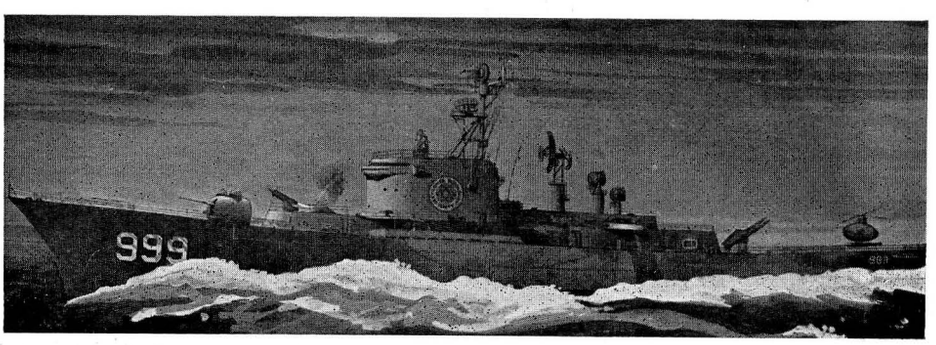
1 Projected

DD(N)

Builders:	Bethlehem Steel Company, Quincy.
Displacement:	3,500 tons *standard*
Dimensions:	Length: 490 feet Beam: 50 feet Draught: 21 feet
Machinery:	2 pressurised water cooled nuclear reactors. Geared turbines. 2 shafts. S.H.P.: "over 60,000"="over 30" kts.

Notes

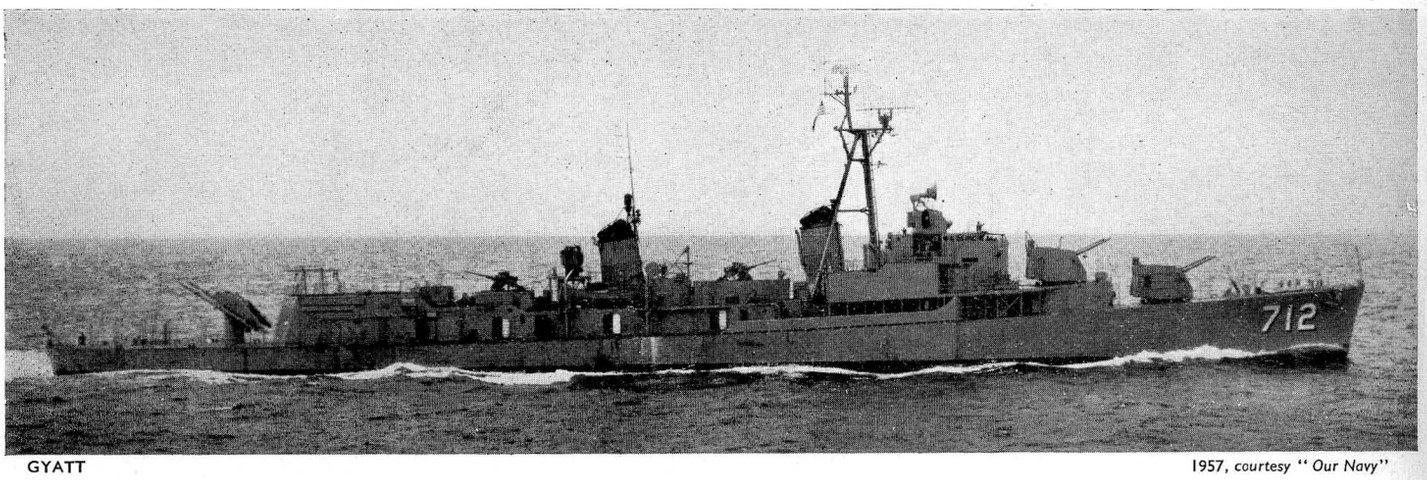
The Bethlehem Steel Company, Quincy, Massachusetts, was awarded a contract for the design of a nuclear powered destroyer in Dec. 1957. If this vessel materialises she will be the smallest surface fighting ship in the world in which a nuclear powered engineering plant has been installed, but construction is not planned in the near future due to economy reasons.



DD 999 (destroyer of the future)

1959, *United States Navy, Official*

GUIDED MISSILE DESTROYERS (DDG)



GYATT — 1957, *courtesy "Our Navy"*

1 Converted "Gearing" Class Ex-Destroyer (DD)

DDG 1 GYATT (ex-*DDG* 712, ex-*DD* 712)

Builders:	Federal Shipbuilding & Dry Dock Co.
Launched:	15 Apr. 1945
Completed:	2 July 1945
Converted:	30 Dec. 1956
Displacement:	2,400 tons *standard* (3,480 tons *full load*)
Dimensions:	390½ × 40⅝ × 19 (*max.*) feet.
Guns:	4—5 inch, 38 cal. (two twin turrets forward) 4—3 inch, 50 cal. (two twin mountings, one abaft each funnel)
Guided weapons:	2 launchers (twin mounting aft) for "Terrier" missiles
A/S weapons:	2 Hedgehogs and 2 torpedo racks
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	680 tons
Radius:	6,000 miles at 15 kts.
Complement:	296 (16 officers and 280 men)

General Notes

Originally a normal fleet destroyer (DD) of the 'Gearing' class. Her conversion to a guided missile destroyer (DDG) was provided for under the Fiscal 1956 Appropriations. Reclassified as DDG 1 on 1 Dec. 1955. Converted at the Boston Naval Shipyard, Massachusetts; and fitted with the complete "Terrier" missile installation, to test the feasibility of converting existing destroyers to guided missile destroyers. Commissioned 3 Dec. 1956. Again reclassified as DDG 712 on completion. Reclassified as DDG 1 on 23 May 1957.

Guided Missile Notes

The 14 "Terrier" missiles are carried in twin magazines level with the main deck. The twin missile launcher rotates to all points.

Gyatt is the world's first guided missile destroyer, and also the U.S. Navy's first warship to have a stabilisation system (British Denny-Brown retractable fin stabilisers) added to her hull structure: the system is designed to eliminate much of the rolling that is characteristic of small ships: It consists of two 45 sq.ft. retractable fins extending out from midships well below the waterline.

Gyatt is the Navy's economical approach to a guided missile destroyer by conversion rather than by new construction. The *Gyatt*, in addition to twin "Terrier" guided missile launchers, has the most modern anti-submarine ordnance, and is capable of destroying an enemy attack whether by supersonic aircraft or modern submarine. The ship was the third U.S. Navy warship to carry the guided missile designation (the first two were the *Boston* and *Canberra*, both heavy cruisers).

Photograph Notes

Starboard quarter and port bow views of *Gyatt* in the 1957-58 edition. Starboard quarter view in the 1959-60 edition.

18 + 3 New Construction

2 *Avondale Marine Ways, Inc., New Orleans, Louisiana*

DDG 18 SEMMES
DDG 19

4 Bath Iron Works, Bath, Maine

DDG 2 (ex-*DDG* 952) **CHARLES F. ADAMS**
DDG 3 (ex-*DDG* 953 **JOHN KING**
DDG 10 SAMPSON
DDG 11 SELLERS

4 Defoe Shipbuilding Co., Bay City, Michigan

DDG 7 (ex-*DDG* 957) **HENRY B. WILSON**
DDG 8 (ex-*DDG* 958) **LYNDE McCORMICK**
DDG 12 ROBINSON
DDG 13 HOEL

6 New York Shipbuilding Corpn., Camden, New Jersey

DDG 4 (ex-*DDG* 954 **LAWRENCE**
DDG 5 (ex-*DDG* 955) **BIDDLE**
DDG 6 (ex-*DDG* 956) **BARNEY**
DDG 15
DDG 16
DDG 17

3 *Puget Sound Bridge and Dry Dock Co., Seattle, Wash.*

DDG 20
DDG 21
DDG 22

2 *Todd Shipyards, Inc., Seattle, Washington*

DDG 9 (ex-*DDG* 959) **TOWERS**
DDG 14 BUCHANAN

Displacement:	3,370 tons *standard* (4,500 tons *full load*)
Dimensions:	431 (*w.l.*), 437 (*o.a.*) × 47 × 20 feet
Guns:	2—5 inch, 54 cal. single-mount, rapid fire
Guided weapons:	Twin "Tartar" surface-to-air missile launcher
A/S weapons:	Rocket launchers, (ASROC), 2 to 6 torpedo launchers
Machinery:	Geared steam turbines. 2 shafts. S.H.P.: 70,000=35 kts.
Boilers:	4
Complement:	354 (24 officers, 330 men)

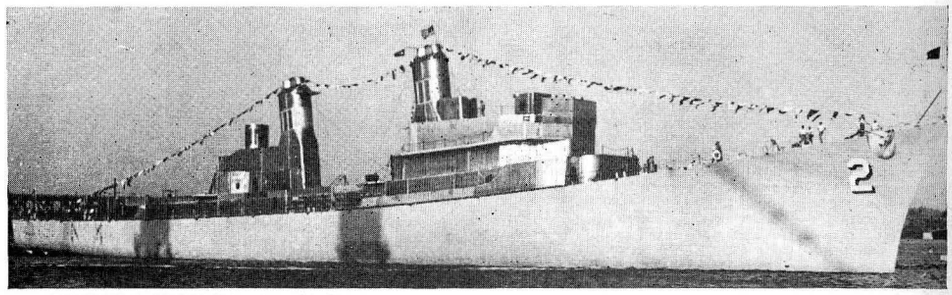
General Notes

Eight guided missile destroyers, DDG 2—9, were provided under the Fiscal 1957 Appropriations, five (DDG 10-14) in 1958, five (DDG 15-19) in 1959, three (DDG 20-22) in 1960, and two are to be built under the 1961 program.

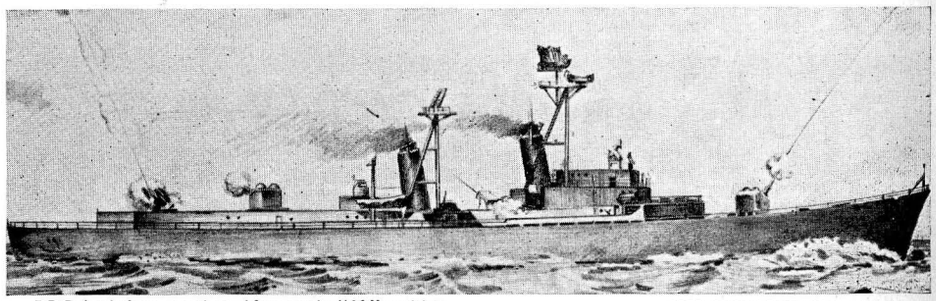
The eight ships in the 1957 procurement and the five in the 1958 procurement will be equipped to launch the "Tartar" surface-to-air missile with a range of 15 to 20 miles. They also will be armed with two main single-mount rapid-fire guns and the latest anti-submarine weapons.

In addition to the "Tartar" missiles, these ships will be equipped with the very latest in long range anti-submarine warfare weapons. These versatile ships will be used to escort amphibious forces and to support them after their landings, to work with hunter killer groups in attacking submarines and to protect vital ocean convoys.

As compared with previous destroyers, the ships will have greater length overall, more beam and heavier displacement.



CHARLES F. ADAMS (after launching) — *Added 1960, United States Navy, Official*



DDG (artist's conception) After gun in "X" position — 1959, *United States Navy, Official*

No.	*Name*	*Laid down*	*Launched*	*Completed*
DDG 2	*Charles F. Adams*	16 June 1958	8 Sep. 1959	10 Sep. 1960
DDG 3	*John King*	25 Aug. 1958	30 Jan. 1960	30 Dec. 1960
DDG 4	*Lawrence*	27 Oct. 1958	27 Feb. 1960	Mar. 1961*
DDG 5	*Biddle*	18 May 1959	4 June 1960	June 1961*
DDG 6	*Barney*	10 Aug. 1959	Oct. 1960*	Aug. 1961*
DDG 7	*Henry B. Wilson*	28 Feb. 1958	22 Apr. 1959	Dec. 1960*
DDG 8	*Lynde McCormick*	4 Apr. 1958	28 July 1959	19 Apr. 1961
DDG 9	*Towers*	1 Apr. 1958	23 Apr. 1959	Apr. 1961*
DDG 10	*Sampson*	2 Mar. 1959	21 June 1960	5 May 1961
DDG 11	*Sellers*	3 Aug. 1959	Sep. 1960*	8 Sep. 1961
DDG 12	*Robinson*	28 Apr. 1959	27 Apr. 1960	3 Aug. 1961
DDG 13	*Hoel*	3 Aug. 1959	Aug. 1960*	5 Dec. 1961
DDG 14	*Buchanan*	23 Apr. 1959	11 May 1960	Nov. 1961*
DDG 18	*Semmes*			

* Dates are official estimates.

They have a new hull design which is an evolution of the "*Forrest Sherman*" (DD 931) type and, like the "*Forrest Sherman*" class, will have aluminium superstructures. The most recent habitability improvements have been incorporated into their construction, including air conditioning of all living spaces.

DDG 20, 21 and 22 are to have bow mounted long range sonar.

Cost: about $17,000,000 to $18,000,000 each (with missiles and electronics $34,000,000 each).

Gunnery Notes

The original design provided for two 5 inch guns, one forward in "A" position and one aft in "Y" position (anti-submarine weapons in "B" positions and guided weapons in "X" position) but it is reported that the after ("Y") 5 inch gun may be suppressed in favour of a guided missile launcher.

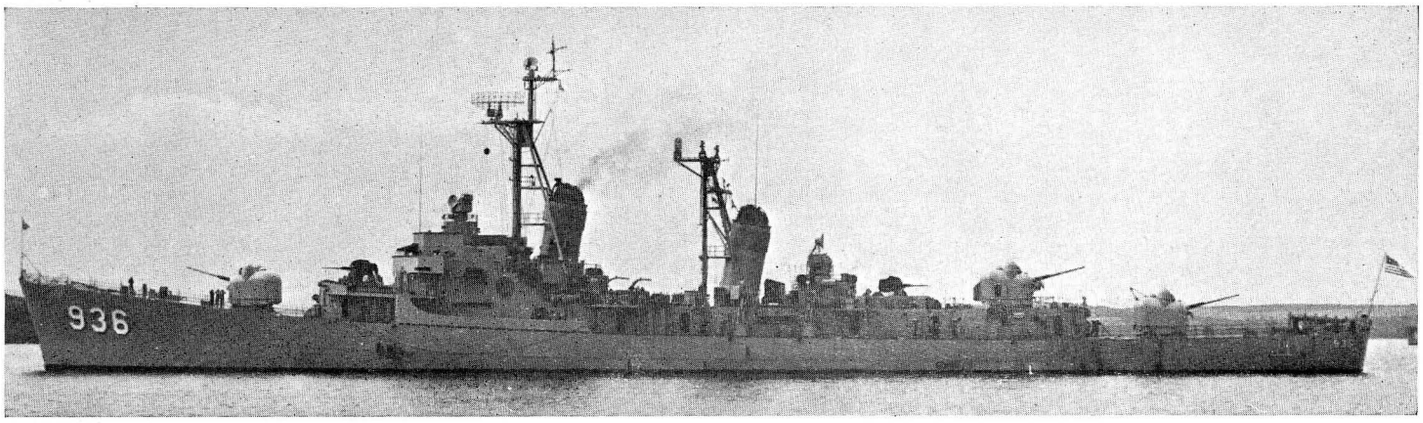
Guided Missile Notes

"Tartar" weapons are smaller than "Terrier" missiles with greater range. In these ships they are mounted in a battery aft. 42 missiles are carried. Missiles are 15 feet long and 1 foot in diameter.

Engineering Notes

DDG 2, 3, 7 and 8 are to be equipped with General Electric main propulsion units (steam turbines) and electric power-generating equipment.

DESTROYERS (DD)



DECATUR

Added 1959, *courtesy Dr. Ian S. Pearsall*

18 "Forrest Sherman" Class

9 *Bath Iron Works Corpn.*	5 *Bethlehem Steel Co., Quincy,*
DD	**DD**
931 FORREST SHERMAN	**936 DECATUR**
932 JOHN PAUL JONES	**937 DAVIS**
933 BARRY	**938 JONAS INGRAM**
940 MANLEY	**944 MULLINNIX**
941 DU PONT	**945 HULL**
942 BIGELOW	**946 EDSON**
943 BLANDY	**947 SOMERS**
2 *Ingalls S.B. Corpn.*	2 *Puget Sound B. & D. Co.,*
948 MORTON	**950 RICHARD S. EDWARDS**
949 PARSONS	**951 TURNER JOY**

Displacement:	2,650 tons *light*, 2,850 tons *standard* (4,200 tons *full load*), see *Notes*
Dimensions:	418½ × 45 × 19½ feet
Guns:	3—5 inch 54 cal. d.p. (1 forward, 2 aft), 4—3 inch, 50 cal. AA. (new pattern twin enclosed gunhouses), see *Notes*)
Tubes:	4—21 inch A/S fixed (torpedo racks), see *Notes*
A/S weapons:	2 Hedgehogs, depth charge tracks (*Somers:* 2 barrelled ASW)
Machinery:	2 geared steam turbines. 2 shafts. S.H.P.: 70,000=over 33 kts.
Boilers:	4
Completion:	255 (15 officers, 240 men)

General Notes
The construction of first three was provided for under the 1952-53 programme. Not radical in design but embody certain improvements in armament. Increased freeboard forward. Entire ship's structure above main deck including gun foundations is of aluminium to obtain maximum stability while maintaining minimum ship displacement. Air conditioned throughout. DD 938 ordered 3 Feb. 1954, DD 941 and DD 942 30 July 1954, DD 943 and DD 944 awarded 23 Oct. 1954. (DD 939 was ex-German Z 39).

Gunnery Notes
These ships are the first United States warships with gun batteries arranged to provide more fire power aft than forward.

Torpedo Notes
Tubes are replaced by torpedo racks between the funnels.

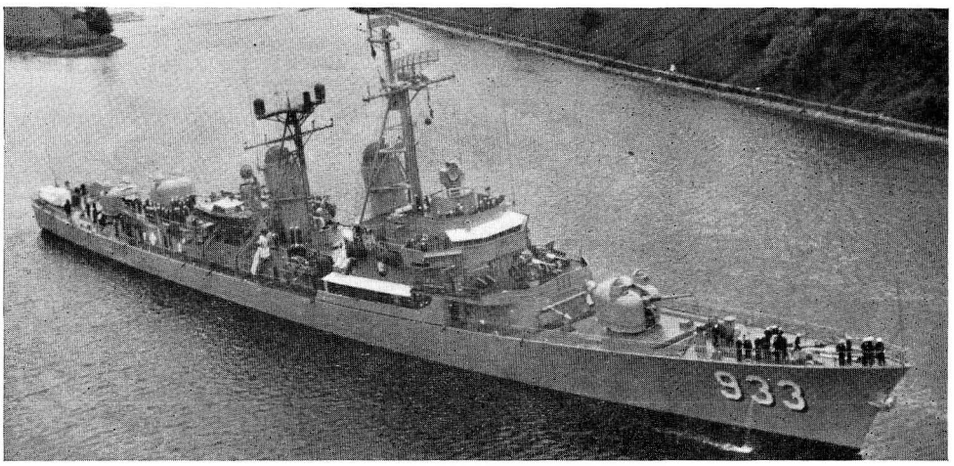
Sonar Notes
Barry has been fitted with a new clipper bow housing a new type of sonar dome, at Boston Naval Shipyard in 1959, and has stem anchor only.

Anti-Radiation Notes
Richard. S. Edwards was built from the keel up with atomic decontamination gear (other ships have had such gear added afterwards).

Displacement Notes
The displacement varies between 2,780 tons and 2,850 tons because of machinery differences.

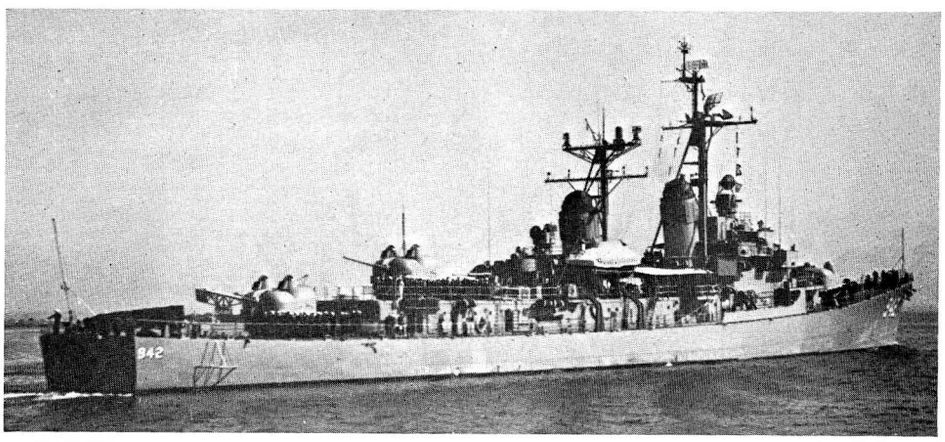
Building Notes
Most of the completed dates in the table are actually commissioning dates which are a month or two before the official completion dates.

Name	*Laid down*	*Launched*	*Completed*
Forrest Sherman	27 Oct. 1953	5 Feb. 1955	9 Nov. 1955
John Paul Jones	18 Jan. 1954	7 May 1955	5 Apr. 1956
Barry	15 Mar. 1954	1 Oct. 1955	31 Aug. 1957
Decatur	13 Sep. 1954	15 Dec. 1955	30 Nov. 1956
Davis	1 Feb. 1955	28 Mar. 1956	6 Mar. 1957
Manley	10 Feb. 1955	12 Apr. 1956	1 Feb. 1957
Jonas Ingram	15 June 1955	8 July 1956	19 July 1957
Du Pont	11 May 1955	8 Sep. 1956	1 July 1957
Blandy	29 Dec. 1955	19 Dec. 1956	26 Nov. 1957
Bigelow	6 July 1955	2 Feb. 1957	8 Nov. 1957
Mullinnix	5 Apr. 1956	18 Mar. 1957	7 Mar. 1958
Hull	12 Sep. 1956	10 Aug. 1957	2 June 1958
Edson	3 Dec. 1956	1 Jan. 1958	7 Nov. 1958
Richard S. Edwards	20 Dec. 1956	24 Sep. 1957	5 Feb. 1959
Morton	4 Mar. 1957	23 May 1958	16 Mar. 1959
Somers	4 Mar. 1957	30 May 1958	3 Apr. 1959
Parsons	17 June 1957	19 Aug. 1958	29 Oct. 1959
Turner Joy	30 Sep. 1957	5 May 1958	3 Aug. 1959



BARRY (clipper bow, stem anchor)

1960, *Erich Gröner*



BIGELOW

1959, *R. M. Scott*



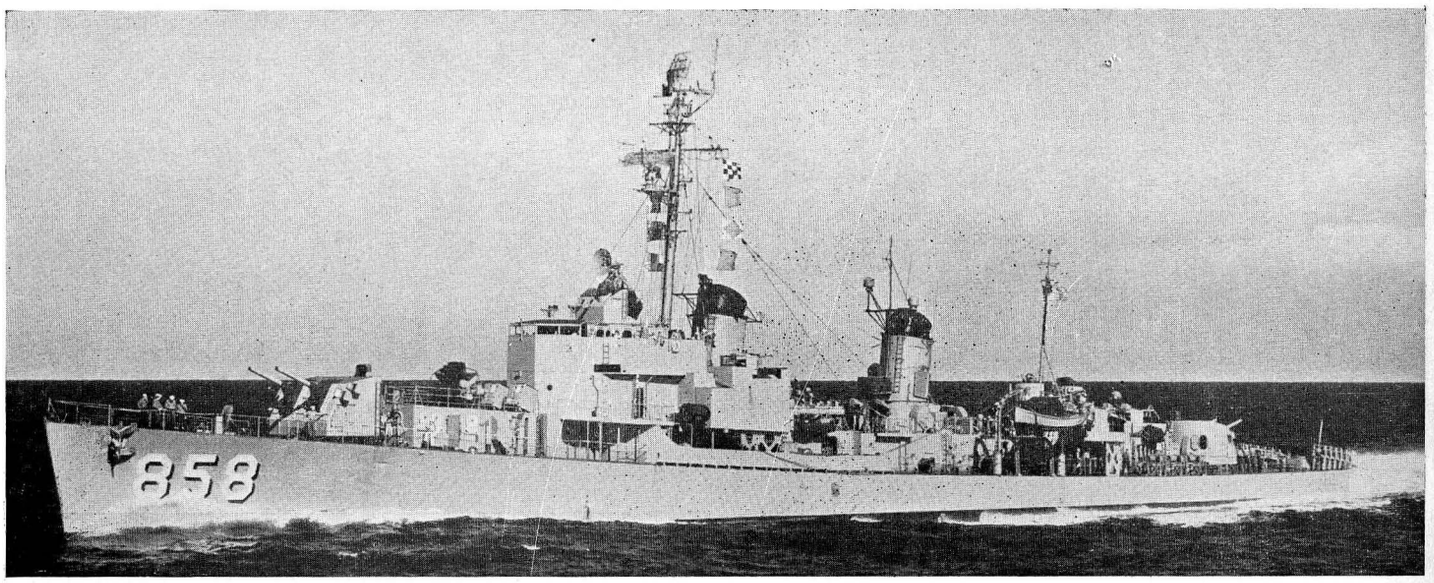
MULLINNIX

1959, *Ted Stone*

Nomenclature Note
The name of DD 951 was changed from *Joy* to *Turner Joy* on 26 July 1957.

Photograph Notes
Photographs of *Forrest Sherman* and *John Paul Jones* appear in the 1957-58 to 1959-60 editions.

Destroyers—*continued*



FRED T. BERRY

1957, *Skyfotos*

Anti-Submarine Destroyers (DDE)

8 "Carpenter" Class

1 *Bath Iron Works Corpn.*
DDE
827 ROBERT A. OWENS (15 July 1946)

2 *Bethlehem, S. Francisco*
765 KEPPLER (24 June 1946)
764 LLOYD THOMAS (5 Oct. 1945)

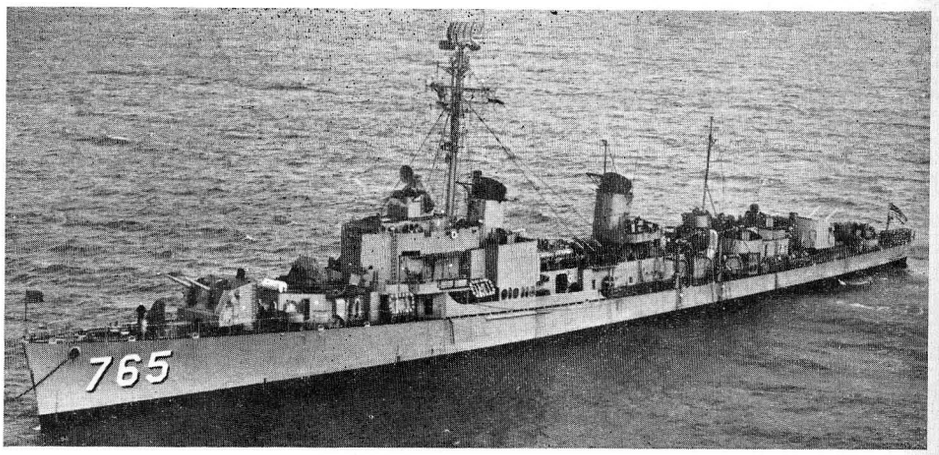
1 *Consolidated Steel Corpn.* (*Completed by Newport News*)
825 CARPENTER (30 Dec. 1945)

4 *Bethlehem, S. Pedro*
858 FRED T. BERRY (28 Jan. 1945)
861 HARWOOD (24 May 1945)
860 McCAFFERY (12 Apr. 1945)
859 NORRIS (25 Feb. 1945)

Displacement:	*Carpenter* and *Robert A. Owens*: 2,500 tons *standard* (3,550 tons *full load*) Remaining six: 2,425 tons *standard* (3,500 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅝ × 19 (*max.*) feet
Guns:	4—3 inch, 70 cal. (twin-automatic), 2
A/S weapons:	large ahead throwing A/S weapons; in *Carpenter* and *Robert A. Owens*, 4—5 inch, 8—3 inch, 1 large A/S weapon in others.
Tubes:	5—21 inch (none in *Carpenter* and *Robert A. Owens*)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	350

General Notes

Originally designed as units of the "Gearing" class. *Robert A. Owens* and *Carpenter*, towed to Newport News in 1947, were completed as Hunter-killer Destroyers on Nov. 5, 1949, and Dec. 15, 1949, respectively. The remaining six were converted under the 1949 Program. Launch dates above. They were rated as DDKs until March 4, 1950, when the DDE and DDK types merged. *Robert A. Owens* had six 3-inch guns. In *Carpenter* the forward 5-inch twin turret was removed, a pair of twin 3-inch automatic weapons substituted, and a bandstand containing a large weapon of the hedgehog type in place of the superimposed 5-inch turret.



KEPPLER

Added 1959 *Skyfotos*

Anti-Submarine Notes

It is understood that additional multiple A/S mortars have been installed amidships and aft, and a number of Sono-buoys are included in the equipment. These are dropped in a diamond shaped pattern (one in the middle) outlining an area in which a submarine is suspected to be in operation. They contain microphones, and by keeping track of which picks up the loudest sound the destroyer can determine in which direction and at what speed and depth the submarine is moving. Once this is detected the destroyer moves in rapidly for the kill, laying down a pattern of depth bombs.

Gunnery Notes

Carpenter was the first ship in the Pacific Fleet to have the new 3 inch, 70 cal. automatic gun mountings. Her hedgehog forward is now removed.

Photograph Notes

Photographs of *Lloyd Thomas* in the 1953-54 to 1957-58 editions, and of *Carpenter* in the 1957-58 to 1959-60 editions.

General Note on DDEs (former DDKs)

Vessels have been completed as such and converted from existing DDs in order to form groups for the purpose of long- and short-range interception of submarines before they can attack convoys.

7 Converted "Gearing" Class

1 *Bath Iron Works Corpn.*
DDE
847 ROBERT L. WILSON

1 *Bethlehem, Staten Island*
871 DAMATO

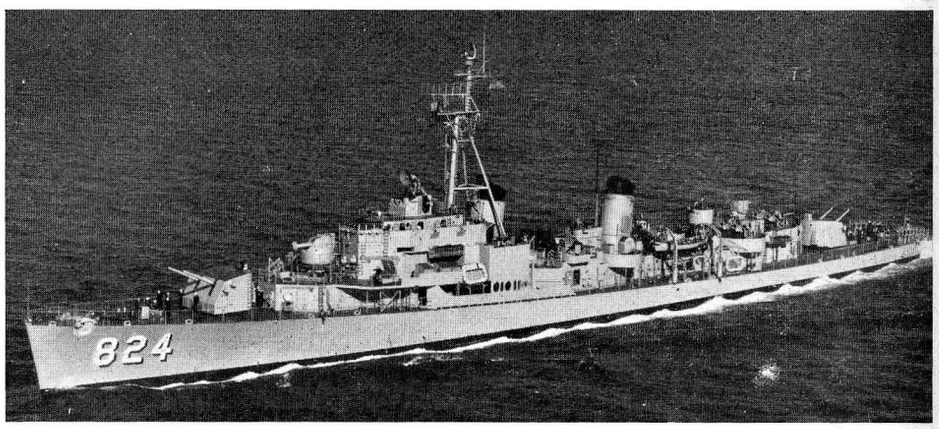
4 *Consolidated Steel Corpn.*
DDE
824 BASILONE
819 HOLDER
818 NEW
820 RICH

1 *Federal S.B. & D.D. Co.*
719 EPPERSON

Displacement:	2,425 tons *standard* (3,500 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅝ × 19 (*max.*) feet
Guns:	4—5 inch, 38 cal., 4 to 10—3 inch, 50 cal. (*Basilone* 4—3 inch, others 6—3 inch)
A/S weapons:	Ahead throwing A/S weapon in place of forward superimposed 5-inch twin turret
Tubes:	Removed in *Basilone* and *Epperson*. Others 5—21 inch
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	350 (war)

General Notes

Former destroyers (DD). Builders above. *Basilone* and *Epperson*, both completed at Bath, were two long suspended units of the "Gearing" class. They were converted to ASW (for anti-submarine warfare) and completed as escort destroyers. They are armed with new weapons and equipped with improved sonar and other electronic gear. Five other units were 4-gun "Gearings" redesignated DDEs on 4 March 1950. The remaining 4-gun "Gearing" (*Sarsfield*) is an EDD (experimental destroyer), see page 338.



BASILONE

Added 1959, *Skyfotos*

Name	*Launched*	*Completed*
Basilone	21 Dec. 1945	21 July 1949
Damato	21 Nov. 1945	26 Apr. 1946
Epperson	22 Dec. 1945	18 Mar. 1949
Holder	25 Aug. 1945	17 May 1946
New	18 Aug. 1945	4 Apr. 1946
Rich	5 Oct. 1945	2 July 1946
Robert L. Wilson	5 Jan. 1946	28 Mar. 1946

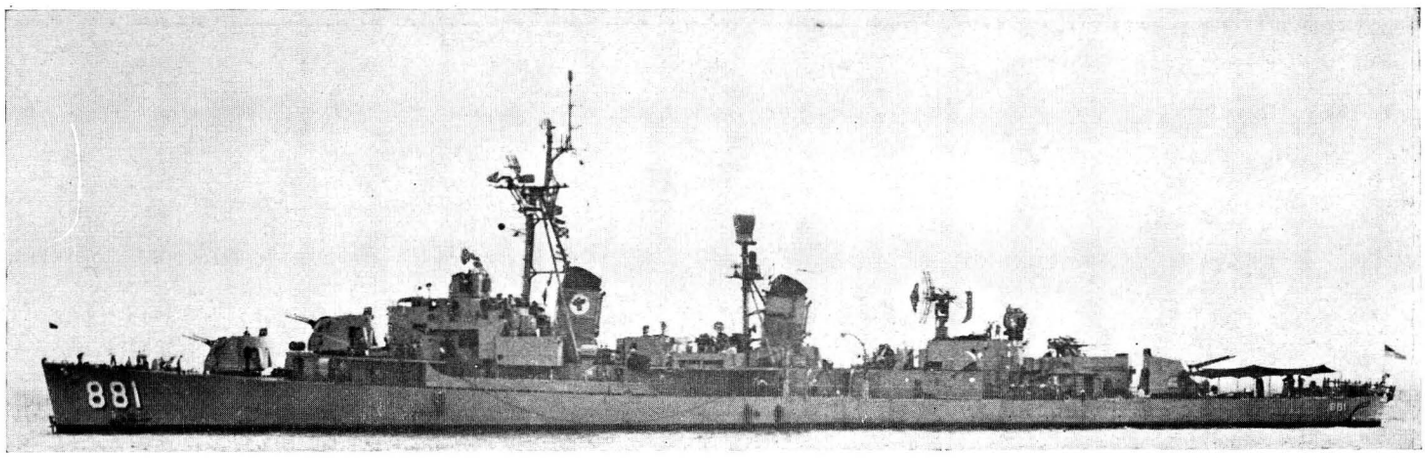
Photograph Notes

Photographs of *Holder* in the 1953-54 to 1957-58 editions, of *Epperson* in the 1954-55 to 1959-60 editions, and of *Damato* in the 1957-58 to 1959-60 editions.

Recent Disposal

The experimental destroyer *Timmerman*, AG 152 (ex-EDD 828) of the modified "Gearing" type, see page 376, 1958-59 edition, was stricken from the Navy List in 1958 and scrapped in 1959.

Destroyers—*continued*



BORDELON (broadside silhouette) note mainmast

1957, *Captain Aldo Fraccaroli*

Radar Picket Destroyers (DDR)
36 Converted "Gearing" Class

15 Bath Iron Works Corpn.

DDR
807 BENNER
835 CHARLES P. CECIL
805 CHEVALIER
808 DENNIS J. BUCKLEY
838 ERNEST G. SMALL
830 EVERETT F. LARSON
842 FISKE
742 FRANK KNOX
831 GOODRICH
832 HANSON
833 HERBERT J. THOMAS
806 HIGBEE
829 MYLES C. FOX
743 SOUTHERLAND
834 TURNER

2 Bethlehem, Staten Island

870 FECHTELER
863 STEINAKER

14 Consolidated Steel Corpn.

881 BORDELON
817 CORRY
874 DUNCAN
880 DYESS
882 FURSE
873 HAWKINS
875 HENRY W. TUCKER
879 LEARY
883 NEWMAN K. PERRY
889 O'HARE
877 PERKINS
876 ROGERS
888 STICKELL
878 VESOLE

4 Federal S. B. & D.D. Co.

711 EUGENE A. GREENE
713 KENNETH D. BAILEY
715 WILLIAM M. WOOD
714 WILLIAM R. RUSH

1 Todd Pacific Shipyards

784 McKEAN

Displacement:	2,425 tons *standard* (3,550 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅝ × 19 (*max.*) feet.
Guns:	6—5 inch, 38 cal.; 6—3 inch, 50 cal. AA. in place of 12—40 mm. AA. (see *Gunnery Notes*)
A/S weapons:	2 Hedgehogs, 1 Depth Charge Rack, 2 side-launching torpedo racks
Machinery:	Geared turbines, 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	305 (peace), 350 (war)

General Notes

Builders see above. Similar to "Gearing" class. Main differences are that the torpedo tubes are removed. Tripod radar mainmast tower removed and radar located aft of No.2 stack on the after superstructure in all ships (see photos of *Borderlon* and *William R. Rush*.

Conversion Notes

All converted from DDs to DDRs and fitted with early warning radar to serve as long-range-warning picket vessels against aircraft. *Goodrich*, *Kenneth D. Bailey* and *Turner* have undergone FRAM conversions and are equipped with DASH.

Gunnery Notes

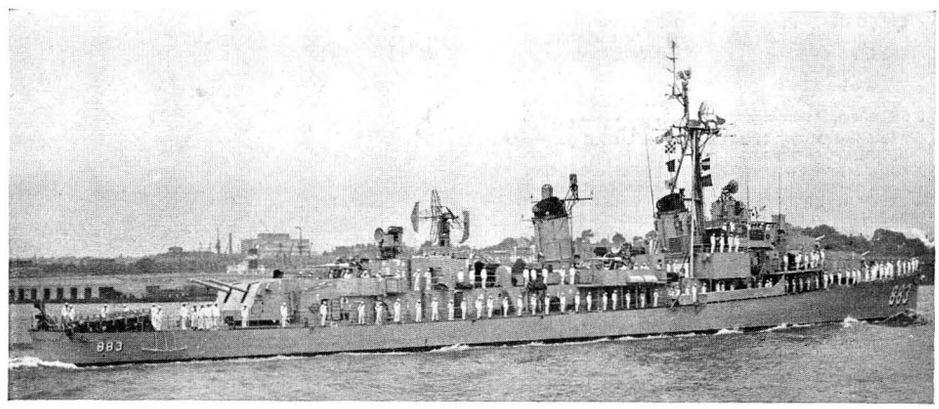
Twin mounted 3-inch guns have replaced 40 mm. and 20 mm. guns in *Bordelon*, *Chevalier*, *Corry*, *Dyess*, *Herbert J. Thomas*, *Southerland*, and most of the other ships. Some are being modified with an enlarged combat information centre and have had the two twin 3 inch mounts amidships removed.

Name	*Launched*	*Completed*
Benner	20 Nov. 1944	13 Feb. 1945
Bordelon	3 Mar. 1945	5 June 1945
Charles P. Cecil	22 Apr. 1945	29 June 1945
Chevalier	29 Oct. 1944	9 Jan. 1945
Corry	28 July 1945	26 Feb. 1946
Dennis J. Buckley	20 Dec. 1944	2 Mar. 1945
Duncan	27 Oct. 1944	25 Feb. 1945
Dyess	26 Jan. 1945	21 May 1945
Ernest G. Small	9 June 1945	21 Aug. 1945
Eugene A. Greene	18 Mar. 1945	8 June 1945
Everett F. Larson	28 Jan. 1945	6 Apr. 1945
Fechteler	19 Sep. 1945	2 Mar. 1946
Fiske	8 Sep. 1945	28 Nov. 1945
Frank Knox	17 Sep. 1944	11 Dec. 1944
Furse	9 Mar 1945	10 July 1945
Goodrich	25 Feb. 1945	24 Apr. 1945
Hanson	11 Mar. 1945	11 May 1945
Hawkins	7 Oct 1944	10 Feb. 1945
Henry W. Tucker	8 Nov. 1944	12 Mar. 1945
Herbert J. Thomas	25 Mar. 1945	29 May 1945
Higbee	12 Nov. 1944	27 Jan. 1945
Kenneth D. Bailey	17 June 1945	31 July 1945
Leary	20 Jan. 1945	7 May 1945
McKean	31 Mar. 1945	9 June 1945
Myles C. Fox	13 Jan. 1945	20 Mar. 1945
Newman K. Perry	17 Mar. 1945	26 July 1945
O'Hare	22 June 1945	29 Nov. 1945
Perkins	7 Dec. 1944	5 Apr. 1945
Rogers	20 Nov. 1944	26 Mar. 1945
Southerland	5 Oct. 1944	22 Dec. 1944
Steinaker	13 Feb. 1945	26 May 1945
Stickell	16 June 1945	26 Sep. 1945
Turner	8 Apr. 1945	12 June 1945
Vesole	29 Dec 1944	23 Apr. 1945
William M. Wood	29 July 1945	23 Nov. 1945
William R. Rush	8 July 1945	21 Sep. 1945



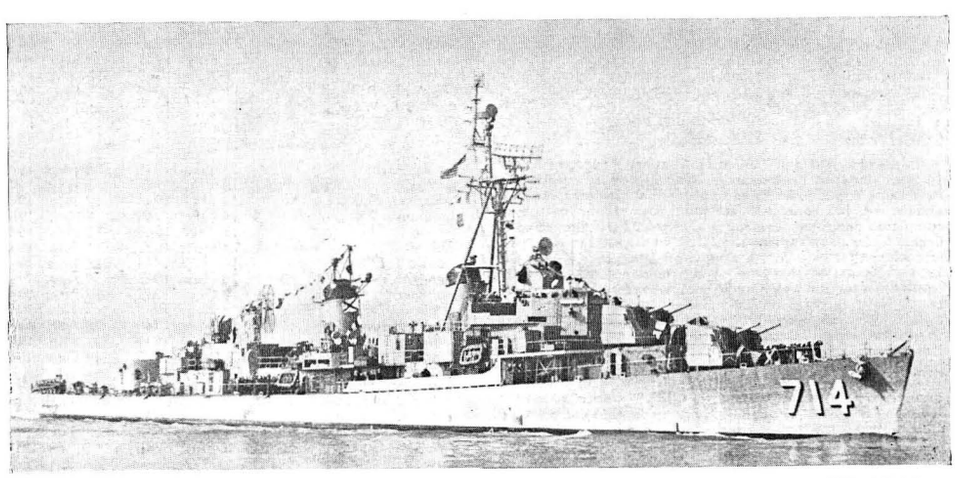
FISKE

1960, *A. & J. Pavia*



NEWMAN K. PERRY

1959, *Ted Stone*



WILLIAM R. RUSH

1957, *Official*

A/S Weapon Notes

All K-guns have been removed and replaced by two side-launching torpedo racks.

Appearance Notes

All tripod radar mainmasts have been removed from *Newman K. Perry*, *Turner* and other ships; but *Bordelon* and others have a new type of mainmast for "TACAN" and ECM attennae on the fore side of the after funnel.

Direction Notes

Height finding radar and director for 3 inch anti-aircraft guns silhouetted broadside in *Bordelon* and close up in *Newman K. Perry* (see 1957-58 edition). Observe gunnery aerial as in French *Surcouf*.

Photograph Notes

Photographs of *Vesole* and *Newman K. Perry* (close up of "X" position showing radar and 3-inch gun details) in the 1957-58 edition.



FLOYD B. PARKS

1957, *U.S. Navy, Official*

Destroyers (DD)

45 "Gearing" Class

12 *Bath Iron Works Corpn.*

DD
826 AGERHOLM
845 BAUSSELL
836 GEORGE K. MACKENZIE
840 GLENNON
841 NOA
846 OZBOURN
844 PERRY
839 POWER
E 849 RICHARD E. KRAUS (ex-*AG* 51)
E 837 SARSFIELD
843 WARRINGTON
E 848 WITEK

4 *Bethlehem, Quincy*

853 CHARLES H. ROAN
850 JOSEPH P. KENNEDY, JR.
852 LEONARD F. MASON
851 RUPERTUS

8 *Bethlehem, Staten Island*

869 ARNOLD J. ISBELL
868 BROWNSON
865 CHARLES R. WARE
866 CONE
872 FORREST ROYAL
864 HAROLD J. ELLISON
867 STRIBLING
862 VOGELGESANG

1 *Bethlehem, S. Francisco*

763 WILLIAM C. LAWE

8 *Consolidated Steel Corpn.*

877 BRINKLEY BASS
884 FLOYD B. PARKS
885 JOHN R. CRAIG
821 JOHNSTON
890 MEREDITH
886 ORLECK
822 ROBERT H. McCARD
823 SAMUEL B. ROBERTS

4 *Federal S.B. & D.D. Co.*

710 GEARING
718 HAMNER
717 THEODORE E. CHANDLER
716 WILTSIE

8 *Todd Pacific Shipyards*

789 EVERSOLE
783 GURKE (ex-*John A. Bole*)
785 HENDERSON
788 HOLLISTER
787 JAMES E. KYES
786 RICHARD B. ANDERSON
782 ROWAN
790 SHELTON

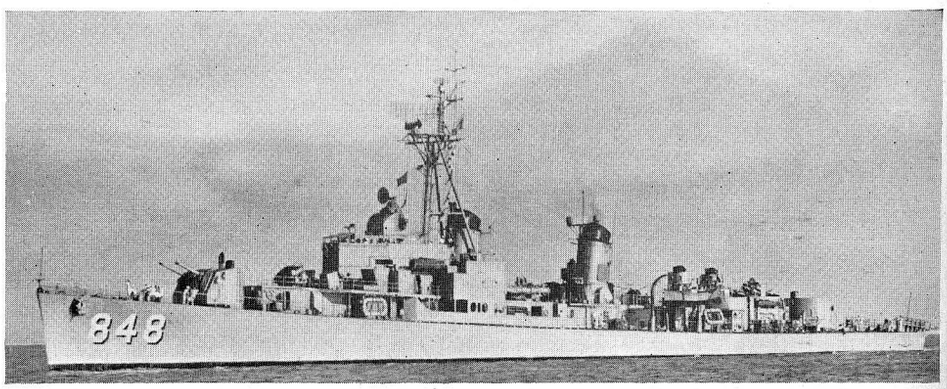
Displacement:	2,425 tons *standard*, *Witek* 2,465 tons (3,479 to 3,520 tons *full load*)
Dimensions:	390½ (*o.a.*) × 40⅝ × 19 (*max.*) feet
Guns:	6—5 inch, 38 cal., 6—3 inch (*Sarsfield* and *Witek* 4—5 inch) (see *Gunnery Notes*)
A/S weapons:	2 hedgehogs, 1 depth charge rack, 2 torpedo launching racks
Tubes:	5—21 inch (quintupled)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4
Oil fuel:	650 tons
Radius:	5,800 miles at 15 kts.
Complement:	257 (peace), 350 (war)

General Notes

Enlarged versions of "Allen M. Summer" type, with extra 14 feet length, necessitated by additional installations. All having tripod mast fitted to accommodate new large radar aerials. A 165 tons, 120-feet long bow section of the uncompleted destroyer *Seymour D. Owens* was transferred to the *Ernest G. Small* to replace the latter's bow section which was lost when that ship struck a mine off Songjin, Korea, 7 Oct. 1951. Similarly, the bow of the uncompleted sister ship *Lansdale*, a section weighing 50 tons was removed and welded on to *Floyd B. Parks* which was damaged in spring 1956 in collision with the heavy cruiser *Columbus*. 36 units converted to Radar Picket Destroyers (DDR), 8 to Hunter Killer Destroyers (DDE formerly DDK), 8 to Escort Destroyers (DDE), *Timmerman* completed to a new design (EDD) but re-designated (AG) was scrapped in 1959. *Richard E. Kraus*, formerly AG, restored to DD, Jan. 1954. Cancellations: DD 809-816, 854-856, 891-926. *Abner Read* (769), *Noel* (768), uncompleted and scrapped.

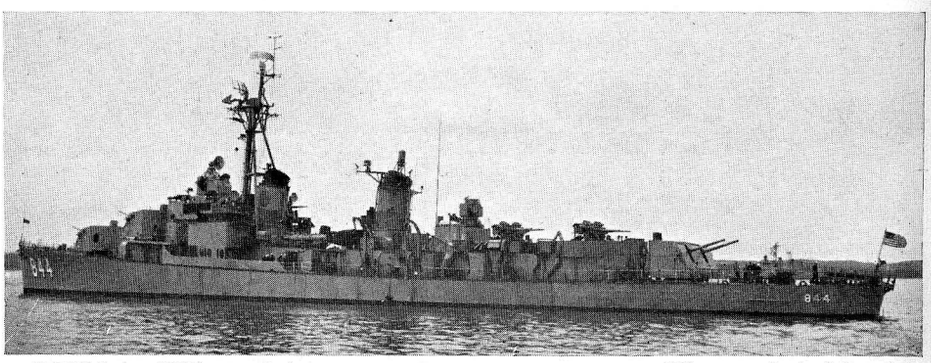
Reconstruction Notes

Perry, DD 844, was converted and modernised for anti-submarine warfare at a cost of $7,700,000 in Boston Naval Shipyard. She is the first of 163 destroyers to be modernised in the next five years (see notes on FRAM Program on page 390 of the 1959-60 edition. She lost some of her conventional armament but gained new weapons and electronic equipment, including ASROC. Conversion commenced on 1 May 1959 and was completed on 1 Apr. 1960. *Agerholm*, *Bausell*, *Meredith*, *Noa*, *Richard B. Anderson*, *Shelton*, and *Stribling* have also undergone FRAM conversion and are equipped with DASH.



WITEK (jet propulsion, 4—5 inch guns)

Added 1960, *United States Navy, Official*



PERRY (before FRAM conversion)

1958, *courtesy Dr. Ian S. Pearsal*

Name	*Launched*	*Completed*
Agerholm	30 Mar. 1946	20 June 1946
Arnold J. Isbell	6 Aug. 1945	5 Jan. 1946
Bausell	19 Nov. 1945	7 Feb. 1946
Brinkley Bass	26 May 1945	14 Sep. 1945
Brownson	7 July 1945	17 Nov. 1945
Charles H. Roan	15 Mar. 1946	12 Sep. 1946
Charles R. Ware	12 Apr. 1945	21 July 1945
Cone	10 May 1945	17 Aug. 1945
Eversole	8 Jan. 1946	10 May 1946
Floyd B. Parks	31 Mar. 1945	31 July 1945
Forrest Royal	17 Jan. 1946	28 June 1946
Gearing	18 Feb. 1945	3 May 1945
George H. McKenzie	13 May 1945	13 July 1945
Glennon	14 July 1945	4 Oct. 1945
Gurke	15 Feb. 1945	12 May 1945
Hamner	24 Nov. 1945	11 July 1946
Harold I. Ellison	14 Mar. 1945	23 June 1945
Henderson	28 May 1945	4 Aug. 1945
Hollister	9 Oct. 1945	29 Mar. 1946
James E. Kyes	4 Aug. 1945	8 Feb. 1946
John R. Craig	14 Apr. 1945	20 Aug. 1945
Johnston	19 Oct. 1945	22 Aug. 1946
Joseph P. Kennedy, Jr.	26 July 1945	14 Dec. 1945
Leonard F. Mason	4 Jan. 1946	28 June 1946
Meredith	28 June 1945	31 Dec. 1945
Noa	30 July 1945	1 Nov. 1945
Orleck	12 May 1945	15 Sep. 1945
Ozbourn	22 Dec. 1945	5 Mar. 1946
Perry	25 Nov. 1945	17 Jan. 1946
Power	30 June 1945	13 Sep. 1945
Richard B. Anderson	7 July 1945	28 Sep. 1945
Richard E. Kraus	2 Mar. 1946	23 May 1946
Robert H. McCard	9 Nov. 1945	22 Oct. 1946
Rowan	29 Dec. 1944	31 Mar. 1945
Rupertus	21 Sep. 1945	8 Mar. 1946
Samuel B. Roberts	30 Nov. 1945	19 Dec. 1946
Sarsfield	27 May 1945	31 July 1945
Shelton	8 Mar. 1946	21 June 1946
Stribling	8 June 1945	29 Sep. 1945
Theodore E. Chandler	20 Oct. 1945	21 Mar. 1946
Vogelgesang	15 Jan. 1945	28 Apr. 1945
Warrington	27 Sep. 1945	20 Dec. 1945
William C. Lawe	21 May 1945	18 Dec. 1946
Wiltsie	31 Aug. 1945	11 Jan. 1946
Witek	2 Feb. 1946	25 Apr. 1946

Gunnery Notes

"B" twin 5-inch mounting has been removed from the experimental destroyers *Sarsfield* and *Witek*.

Most of this class have or will have their former 16—40 mm. AA. guns replaced by six 3-inch guns: 1 pair in "Q" position, one pair in "X" position and 2 single guns on either bridge wing. (See photo of *Floyd B. Parks*). All K-guns have been removed and replaced by two torpedo launching racks.

Torpedo Notes

The torpedo tubes have been removed from *Johnston*, DD 821.

Jet Propulsion Notes

A new type propulsion system known as "pumpjet" was installed in *Witek*, EDD 848, in 1959 at Boston Naval Shipyard. This device consists of two units which replace conventional propellers and make the ship quieter (see illustrations in the Addenda, page 478, 1959-60 edition).

Class Notes

Richard E. Kraus, *Sarsfield* and *Witek* are EDD (experimental destroyers). *Gyatt* was converted into a Guided Missile destroyer (DDG) in 1956, see earlier page.

Photograph Notes

Photographs of *Meredith* in the 1952-53 to 1957-58 editions, of *Charles R. Ware* in the 1956-57 and 1957-58 editions, of *Theodore E. Chandler* in the 1957-58 to 1959-60 editions, and of *Forrest Royal* in the 1959-60 edition. A large port bow aerial view of *Witek* and detail views of her pump jet unit and jet propulsion arrangement appear on page 478 (Addenda) of the 1959-60 edition.

Recent Disposals

The uncompleted hulls of *Lansdale*, *Seaman* and *Seymour D. Owens* were scrapped (stricken from the list on 9 June 1958), and the uncompleted hulls of *Castle* and *Woodrow R. Thompson* were scrapped on 29 Aug. 1955.

Destroyers—*continued*



JOHN W. THOMASON (prototype FRAM conversion

1960, *United States Navy, Official*

Destroyers (DD)
53 " Allen M. Summer " Class

11 *Bath Iron Works Corpn.*
DD
722 BARTON
730 COLLETT
732 HYMAN
727 DE HAVEN
724 LAFFEY
729 LYMAN K. SWENSON
731 MADDOX
728 MANSFIELD
725 O'BRIEN
734 PURDY
723 WALKE

6 *Bethlehem Steel Co. (S. Francisco)*
761 BUCK
762 HENLEY
760 JOHN W. THOMASON
759 LOFBERG
757 PUTNAM
758 STRONG

10 *Bethlehem Steel Co. (Staten Island)*
752 ALFRED A. CUNNINGHAM
756 BEATTY
744 BLUE
745 BRUSH
754 FRANK E. EVANS
748 HARRY E. HUBBARD
755 JOHN A. BOLE
753 JOHN R. PIERCE
747 SAMUEL L. MOORE
746 TAUSSIG

4 *Bethlehem Steel Co. (S. Pedro)*
857 BRISTOL
776 JAMES C. OWENS
770 LOWRY
775 WILLARD KEITH

17 *Federal S.B. & D.D. Co.*
692 ALLEN M. SUMNER
698 AULT
704 BORIE
697 CHARLES S. SPERRY
705 COMPTON
696 ENGLISH
706 GAINARD
702 HANK
708 HARLAN R. DICKSON
700 HAYNSWORTH
709 HUGH PURVIS
694 INGRAHAM
701 JOHN W. WEEKS
693 MOALE
707 SOLEY
699 WALDRON
703 WALLACE L. LIND

5 *Todd Pacific Shipyards*
779 DOUGLAS H. FOX
778 MASSEY
781 ROBERT K. HUNTINGTON
780 STORMES
777 ZELLARS

Displacement:	2,200 tons *standard* (3,300 tons *full load*)
Dimensions:	376½ × 40¾ × 19 (*max.*) feet
Guns:	6—5 inch, 38 cal., 6—3 inch, 50 cal. AA. (3 inch removed from FRAM conversions)
Tubes:	5—21 inch (quintupled)—removed from FRAM conversions
A/S weapons:	2 hedgehogs mounted on deckhouse abeam bridge front, 1 D.C. rack, 2 side-launching torpedo racks.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=34 kts. (designed), 33 kts. actual
Boilers:	4 Babcock & Wilcox, working pressure 600 lb. per sq.inch.
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350 (war)

General Notes

Have a larger radius of action than any destroyers previously constructed. Type is an enlargement and modification of the " Fletcher " design. After set of tubes was removed. Some now have 3-inch AA. guns in place of former 40 mm. and 20 mm. Twelve of this class (two scrapped) were fitted for minelaying and re-rated as DM 23-24 (see page 344). *Hugh W. Hadley* was sold. War losses: *Cooper, Drexler, Mannert L. Abele, Meredith.*

Reconstruction Notes

John W. Thomason, DD 760, was the prototype conversion for this class under the " FRAM " Program (see page 338). Fitted with " DASH " (drone anti-submarine helicopter) carried on after deck landing area, with hangar facilities, valuable depth sonar (1 ton sonar dome dropped over stern) and ASW torpedo tubes. The 3 inch guns and conventional torpedo tubes were removed, *Blue, Charles H. Sperry, Collett, De Haven, Lowry, Mansfield, Massey, Robert K. Huntington, Stormes* and *Zellars* have also undergone " FRAM " conversion. *Collett*, damaged in collision with *Ammen*, received replacement bow from hull of suspended *Seaman*, at Long Beach, California, in Aug. 1960.

Gunnery Notes

40 mm. and 20 mm. mounts were replaced by 3-inch, 50 cal. mounts in *Borie, Frank E. Evans, Gainard, Harry E. Hubbard, Zellars* and many others (two twin, two single).

A/S Weapons Notes

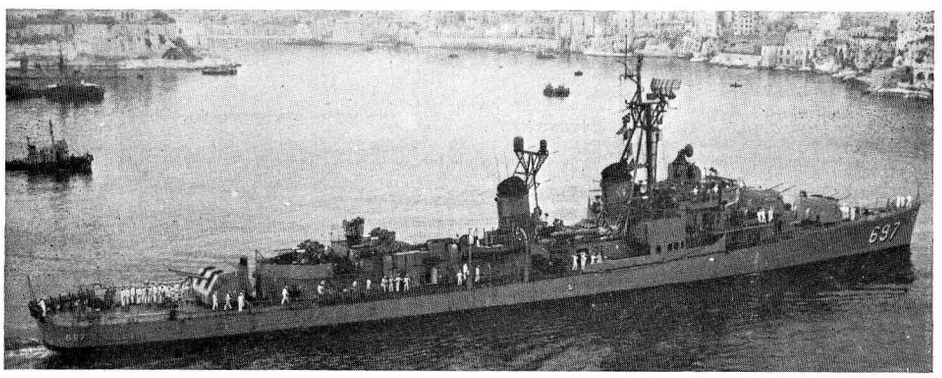
All but one D.C. rack and all K-guns have been removed and replaced by two side-launching torpedo racks.

Appearance Notes

The big spreaders on second funnel are ECM antennae supports which are now fitted on all of this type.

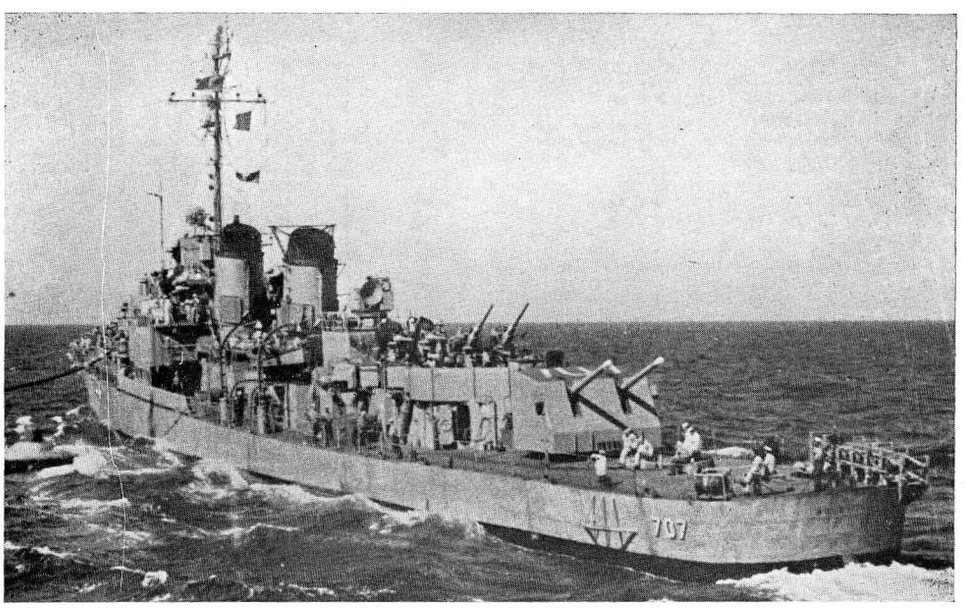
Photograph Notes

Photographs of *Moale* and *Zellars* in the 1957-58 edition, *Hyman* in the 1954-55 to 1958-59 editions, and *Waldron* in the 1958-59 and 1959-60 editions.



CHARLES S. SPERRY

1959, *A. & J. Pavia*

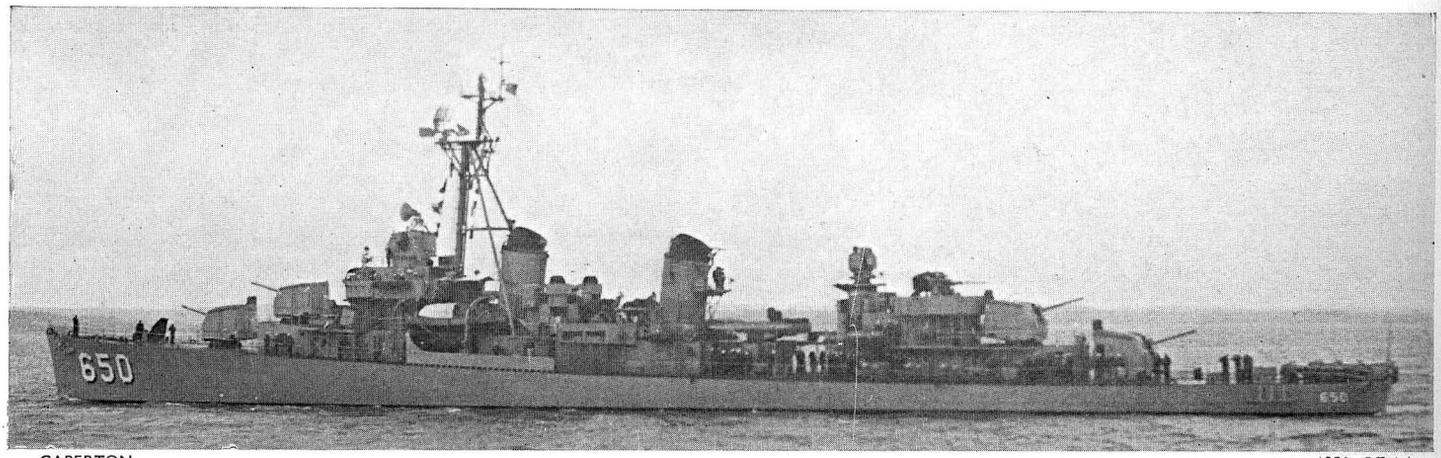


SOLEY

1957, *Giorgio Arra*

Name	Launched	Completed
Alfred A. Cunningham	3 Aug. 1944	23 Nov. 1944
Allen M. Sumner	15 Dec. 1943	26 Jan. 1944
Ault	26 Mar. 1944	31 May 1944
Barton	10 Oct. 1943	30 Dec. 1943
Beatty	30 Nov. 1944	31 Mar. 1945
Blue	28 Nov. 1943	20 Mar 1944
Borie	4 July 1944	21 Sep. 1944
Bristol	29 Oct. 1944	17 Mar. 1945
Brush	28 Dec. 1943	17 Apr. 1944
Buck	11 Mar. 1945	28 June 1946
Charles H. Sperry	13 Mar. 1944	17 May 1944
Collett	5 Mar. 1944	16 May 1944
Compton	17 Sep. 1944	4 Nov. 1944
De Haven	9 Jan. 1944	31 Mar. 1944
Douglas H. Fox	30 Sep. 1944	26 Dec. 1944
English	27 Feb. 1944	4 May 1944
Frank E. Evans	3 Oct. 1944	3 Feb. 1944
Gainard	17 Sep. 1944	23 Nov. 1944
Hank	21 May 1944	28 Aug. 1944
Harlan R. Dickson	17 Dec. 1944	17 Feb. 1945
Harry E. Hubbard	24 Mar. 1944	22 July 1944
Haynsworth	15 Apr. 1944	22 June 1944
Henley	8 Apr. 1945	8 Oct. 1946
Hugh Purvis	17 Dec. 1944	1 Mar. 1945
Hyman	8 Apr. 1944	16 June 1944
Ingraham	16 Jan. 1944	10 Mar. 1944
James C. Owens	1 Oct. 1944	17 Feb. 1945
John A. Boyle	1 Nov. 1944	3 Mar. 1945
John R. Pierce	1 Sep. 1944	30 Dec. 1944
John W. Thomason	30 Sep. 1944	11 Oct. 1945
John W. Weeks	21 May 1944	21 July 1944
Laffey	21 Nov. 1943	8 Feb. 1944
Lofberg	12 Aug. 1944	26 Apr. 1945
Lowry	6 Feb. 1944	23 July 1944
Lyman K. Swenson	12 Feb. 1944	2 May 1944
Maddox	19 Mar. 1944	2 June 1944
Mansfield	29 Jan. 1944	14 Apr. 1944
Massey	19 Aug. 1944	24 Nov. 1944
Moale	16 Jan. 1944	28 Feb. 1944
O'Brien	8 Dec. 1943	25 Feb. 1944
Purdy	7 May 1944	18 July 1944
Putnam	26 Mar. 1944	12 Oct. 1944
Robert K. Huntington	10 Dec. 1944	3 Mar. 1945
Soley	8 Sep. 1944	7 Dec. 1944
Stormes	4 Nov. 1944	27 Jan. 1945
Strong	22 Apr. 1944	8 Mar. 1945
Samuel L. Moore	23 Feb. 1944	24 June 1944
Taussig	25 Jan. 1944	20 May 1944
Waldron	26 Mar. 1944	8 June 1944
Walke	27 Oct. 1943	21 Jan. 1944
Wallace L. Lind	14 June 1944	8 Sep. 1944
Willard Keith	29 Aug. 1944	27 Dec. 1944
Zellars	19 July 1944	25 Oct. 1944

Destroyers—*continued*



CAPERTON 1956, *Official*

Destroyers (DD)

50 Later "Fletcher" Class

7 Bath Iron Works Corpn.

DD
650 CAPERTON
651 COGSWELL
652 INGERSOLL
691 MERTZ
690 NORMAN SCOTT
688 REMEY
689 WADLEIGH

2 Bethlehem Steel Co. (S. Francisco)

683 STOCKHAM
684 WEDDERBURN

8 Bethlehem Steel Co. (Staten Island)

796 BENHAM
657 CHARLES J. BADGER
658 COLAHAN
797 CUSHING
686 HALSEY POWELL
798 MONSSEN
685 PICKING
687 UHLMANN

5 Bethlehem Steel Co. (S. Pedro)

793 CASSIN YOUNG
681 HOPEWELL
794 IRWIN
682 PORTERFIELD
795 PRESTON

1 Boston Navy Yard

662 BENNION

2 Charleston Navy Yard

649 ALBERT W. GRANT
665 BRYANT

18 Federal S.B. & D.D. Co.

666 BLACK
660 BULLARD
667 CHAUNCEY
668 CLARENCE K. BRONSON
669 COTTEN
659 DASHIELL
670 DORTCH
671 GATLING
672 HEALY
673 HICKOX
674 HUNT
661 KIDD
675 LEWIS HANCOCK
677 McDERMUT
678 McGOWAN
679 McNAIR
676 MARSHALL
680 MELVIN

3 Gulf S.B. Corpn.

654 BEARSS
655 JOHN HOOD
656 VAN VALKENBURGH

4 Todd Pacific Shipyards

802 GREGORY
799 JARVIS
800 PORTER
804 ROOKS

Displacement:	2,050 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39⅓ × 18 (*max.*) feet
Guns:	5—5 inch, 38 cal., 10—40 mm., 8—20 mm. AA. (20 mm. removed from all active units) *Converted ships:* 4—5 inch. 38 cal., 6—3 inch, 50 cal. AA. (see *Conversion Notes*)
Tubes:	5—21 inch (quintupled). Some (in reserve) have two sets of 5 torpedo tubes
A/S weapons:	2 Hedgehogs, 1 D.C. track, 2 side-launching torpedo racks
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 60,000= 35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (war)

General Notes

Laid down under the 1942 Program. Builders above. Except that they have lower fire controls and flat-faced bridges these ships are in most respects like "Fletcher" class, described on the following page. Some of the later units of *Fletcher* class are, in fact, almost indistinguishable from modified type—e.g. *Ammen, Sigourney. Dortch* was built in 158 days. War losses: *Callahan, Colhoun, Little.*

A/S Weapon Notes

All K-guns have been removed and replaced by two side-launching torpedo racks.

Appearance Notes

The majority of the active units of this class have tripod mast as in *Caperton* and *McNair* (see photo above).

Conversion Notes

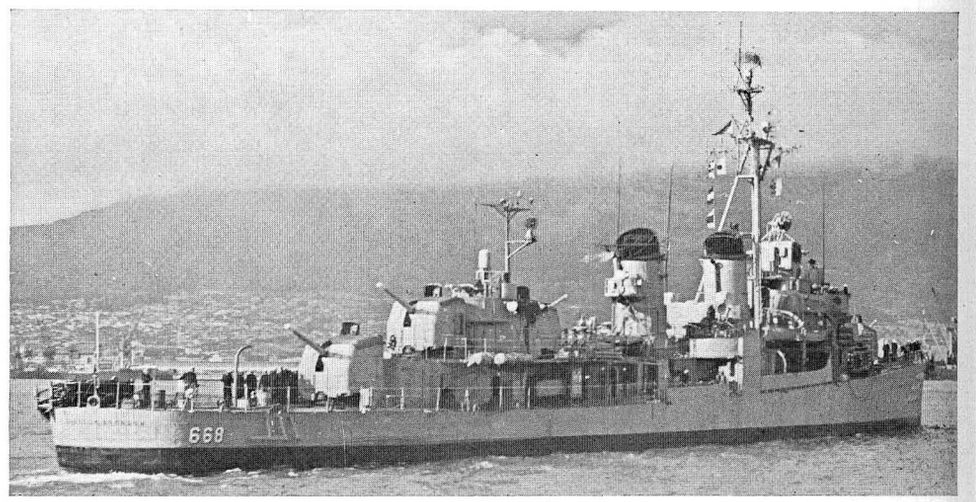
Black, Caperton, Cogswell, Dortch, Hopewell, John Hood, McGowan, McNair, Picking, Preston, Uhlmann and many others have 4—5 inch (two forward, two aft), 6—3 inch, 50 cal. AA. (one pair superfiring aft, two pairs between the funnels), 5 torpedo tubes abaft after funnel. A 3-inch director on a tall pedestal replaces 3rd 5-inch in "Q" position. The forward torpedo bank between the funnels was suppressed. These ships have a tripod mast (see photo of *Cotten*). All vessels of the class have been or are being similarly rearmed except *Albert W. Grant, Bennion, Bullard, Bryant, Melvin, Mertz, Norman Scott,* which are in reserve and mount their origina battery.

Transfer Notes

Heywood L. Edwards, DD 663, and *Richard P. Leary*, DD 664, were transferred to Japan at Long Beach, California, on 10 Mar. 1959, and *Knapp*, DD 653, was transferred to Brazil in 1960.



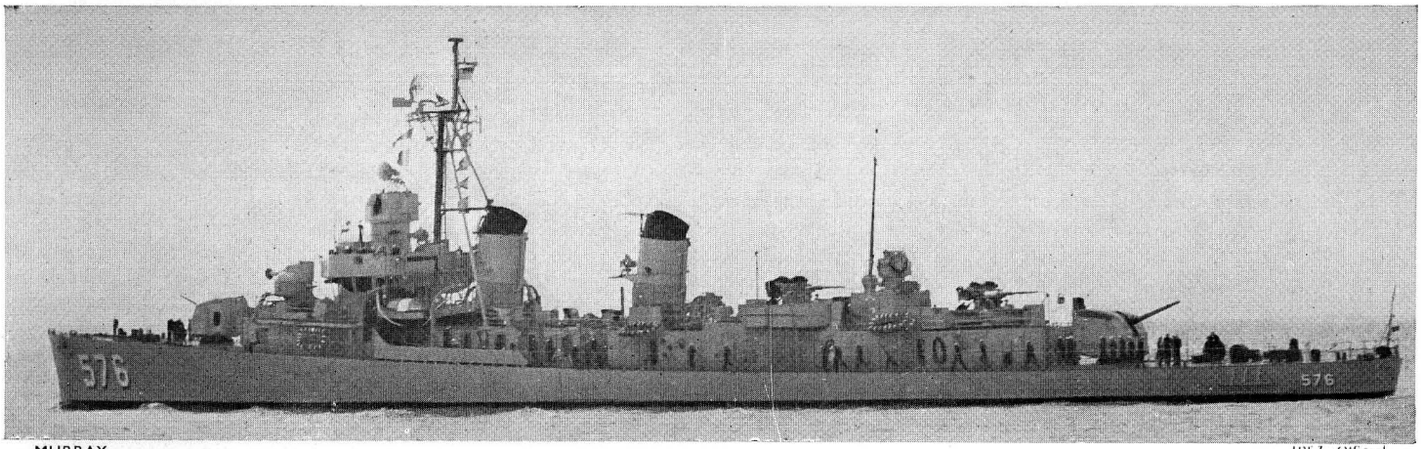
COTTEN *Added 1957, U.S. Navy, Official*



CLARENCE K. BRONSON 1957, *R. M. Scott*

Name	*Launched*	*Completed*	*Name*	*Launched*	*Completed*
Albert W. Grant	29 May 1943	24 Nov. 1943	*Ingersoll*	28 June 1943	31 Aug. 1943
Bearss	25 July 1943	12 Apr. 1944	*Irwin*	31 Oct. 1943	14 Feb. 1944
Benham	29 Aug. 1943	20 Dec. 1943	*Jarvis*	14 Feb. 1944	3 June 1944
Bennion	4 July 1943	14 Dec. 1943	*John Hood*	23 Oct. 1943	7 June 1944
Black	28 Mar. 1943	21 May 1943	*Kidd*	28 Feb. 1943	23 Apr. 1944
Bullard	28 Feb. 1943	9 Apr. 1943	*Lewis Hancock*	1 Aug 1943	29 Sep. 1943
Bryant	29 May 1943	4 Dec. 1943	*McDermut*	17 Oct. 1943	19 Nov. 1943
Caperton	24 July 1943	30 July 1943	*McGowan*	14 Nov 1943	20 Dec. 1943
Cassin Young	12 Sep. 1943	31 Dec. 1943	*McNair*	14 Nov 1943	30 Dec. 1943
Charles J. Badger	3 Apr. 1943	23 July 1943	*Marshall*	29 Aug. 1943	16 Oct. 1943
Chauncey	28 Mar. 1943	31 May 1943	*Melvin*	17 Oct. 1943	24 Nov. 1943
Clarence K. Bronson	18 Apr. 1943	11 June 1943	*Mertz*	11 Sep. 1943	19 Nov. 1943
Cogswell	5 June 1943	17 Aug. 1943	*Monssen*	29 Oct. 1943	12 Feb. 1944
Colahan	2 May 1943	23 Aug. 1943	*Norman Scott*	28 Aug. 1943	5 Nov. 1943
Cotten	12 June 1943	24 July 1943	*Picking*	31 May 1943	21 Sep. 1943
Cushing	30 Sep. 1943	17 Jan. 1944	*Porter*	13 Mar. 1944	24 June 1944
Dashiell	6 Feb. 1943	20 Mar. 1943	*Porterfield*	13 June 1943	30 Oct. 1943
Dortch	20 June 1943	7 Aug. 1943	*Preston*	12 Dec. 1943	20 Mar. 1944
Gatling	20 June 1943	19 Aug. 1943	*Remey*	24 July 1943	30 Sep. 1943
Gregory	8 May 1944	29 July 1944	*Rooks*	6 June 1944	2 Sep. 1944
Halsey Powell	30 June 1943	25 Oct. 1943	*Stockham*	25 July 1943	11 Feb. 1944
Healy	4 July 1943	3 Sep. 1943	*Uhlmann*	30 July 1943	22 Nov. 1943
Hickox	4 July 1943	10 Sep. 1943	*Van Valkenburgh*	19 Dec. 1943	2 Aug. 1944
Hopewell	2 May 1943	30 Sep. 1943	*Wadleigh*	7 Aug. 1943	19 Oct. 1943
Hunt	1 Aug. 1943	22 Sep. 1943	*Wedderburn*	1 Aug. 1943	9 Mar. 1944

Destroyers—*continued*



MURRAY 1957, *Official*

Anti-Submarine Destroyers (DDE)

18 Converted "Fletcher" Class

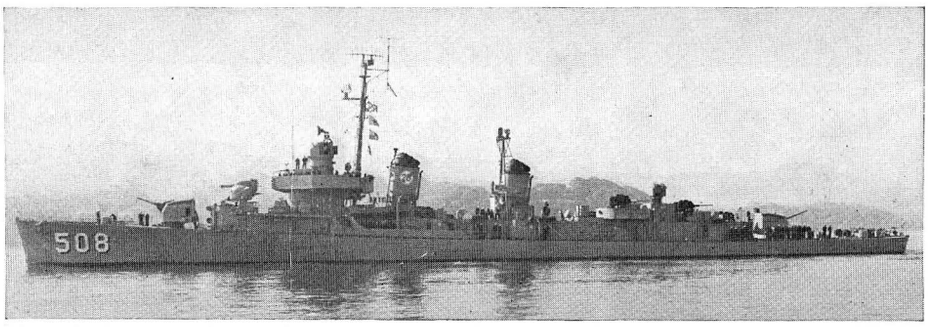
7 *Bath Iron Works Corpn.*
DDE
507 CONWAY
508 CONY
510 EATON
449 NICHOLAS
450 O'BANNON
468 TAYLOR
517 WALKER

2 *Bethlehem (Staten Island)*
470 BACHE
471 BEALE

2 *Consolidated Steel Corpn., Orange, Texas*
576 MURRAY
577 SPROSTON

7 *Federal S.B. & D.D. Co.*
445 FLETCHER
447 JENKINS
498 PHILIP
446 RADFORD
499 RENSHAW
E 465 SAUFLEY
466 WALLER

Name	*Laid down*	*Launched*	*Completed*
Bache	19 Nov. 1941	27 June 1942	14 Nov. 1942
Beale	19 Dec. 1941	25 Aug. 1942	23 Dec. 1942
Conway	5 Nov. 1941	16 Aug. 1942	9 Oct. 1942
Cony	24 Dec. 1941	16 Aug. 1942	30 Oct. 1942
Eaton	17 Mar. 1942	20 Sep 1942	4 Dec. 1942
Fletcher	2 Oct. 1941	3 May 1942	30 June 1942
Jenkins	22 Nov. 1941	21 June 1942	31 July 1942
Murray	16 Mar. 1942	16 Aug. 1942	20 Apr. 1943
Nicholas	3 Mar. 1942	19 Feb. 1942	4 June 1942
O'Bannon	3 Mar. 1941	14 Mar. 1942	26 June 1942
Philip	7 May 1942	13 Oct. 1942	20 Nov. 1942
Radford	2 Oct. 1941	3 May 1942	21 July 1943
Renshaw	7 May 1942	13 Oct. 1942	4 Dec. 1942
Saufley	27 Jan. 1942	19 July 1942	28 Aug. 1942
Sproston	1 Apr. 1942	31 Aug. 1942	18 May 1942
Taylor	28 Aug. 1941	7 June 1942	28 Aug. 1942
Walker	31 Aug. 1942	31 Jan. 1943	2 Apr. 1943
Waller	12 Feb. 1942	15 Aug 1942	30 Sep. 1942



CONY *Added* 1958, *Arcadian Photos*

Displacement:	2,080 tons *standard* (2,940 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39⅓ × 18 (*max.*) feet
Guns:	2—5 inch, 38 cal., 4—3 inch, 50 cal. in twin mountings (see notes)
Tubes:	4—21 inch fixed in after deckhouse
A/S weapons:	1 ahead throwing rocket launcher in place of "B" turret, or trainable Hedgehog, 1 D.C. rack, 2 side-launching torpedo racks, 2 Hedgehogs (fixed)
Machinery:	G.E. geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (war)

General Notes
Former destroyers (DD). Converted to serve as close-support convoy escorts, 9 under the 1948 Program, 3 under the 1949 Program, and 6 under the 1950 Program. *Saufley* is equipped as EDDE; carries 1—5 inch, 2—3 inch, no tubes.

Conversion Notes
Murray, *Nicholas* and *Radford* have undergone FRAM conversion (Fleet Rehabilitation and Modernisation) in 1960.

A/S Weapon Notes
Fixed hedgehogs have been installed on the port and starboard side of the forward shelter deck below the bridge wings.

Photograph Notes
Photographs of *Fletcher*, *Jenkins* and *Nicholas* in the 1957-58 edition.

Destroyers (DD)

63 "Fletcher" Class

DD

8 *Bath Iron Works Corpn.*
629 ABBOT
630 BRAINE
631 ERBEN
511 FOOTE
642 HALE
643 SIGOURNEY
644 STEMBEL
513 TERRY

13 *Bethlehem (S. Francisco)*
527 AMMEN
531 HAZELWOOD
532 HEERMAN
534 McCORD
535 MILLER
526 MULLANY (*ex-Beatty*)
536 OWEN
538 STEPHEN POTTER
537 THE SULLIVANS (*ex-Putnam*)
539 TINGEY
530 TRATHEN
540 TWINING
541 YARNALL

4 *Bethlehem (S. Pedro)*
544 BOYD
545 BRADFORD
546 BROWN
547 COWELL

3 *Bethlehem (Staten Island)*
519 DALY
520 ISHERWOOD
521 KIMBERLY

3 *Boston Navy Yard*
474 FULLAM
585 HARADEN
475 HUDSON

6 *Charleston Navy Yard*
587 BELL
588 BURNS
589 IZARD
590 PAUL HAMILTON
478 STANLEY
479 STEVENS

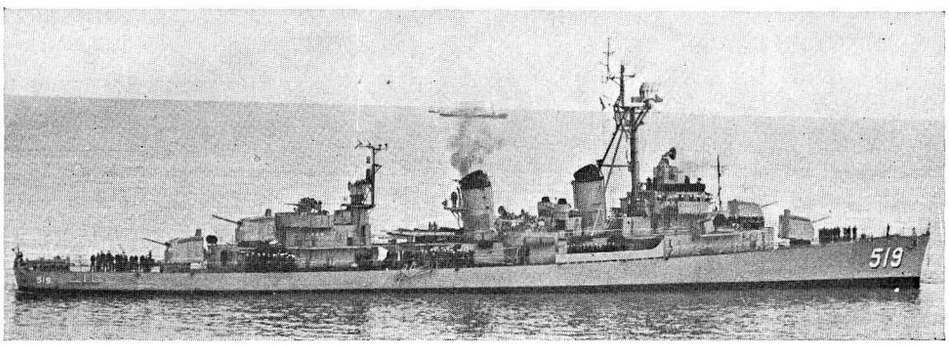
5 *Consolidated Steel Corpn., Orange, Texas*
575 HARRISON
574 JOHN RODGERS
575 McKEE
578 WICKES
580 YOUNG

3 *Federal S.B. & D.D. Co.*
448 LA VALLETTE
501 SCHROEDER
502 SIGSBEE

1 *Gulf S.B. Corpn., Chickasaw Ala.*
553 JOHN D. HENLEY

7 *Puget Sound Navy Yard*
480 HALFORD
594 HART (*ex-Mansfield*)
592 HOWORTH
593 KILLEN
595 METCALF
596 SHIELDS
598 WILEY

10 *Seattle-Tacoma S.B., Corpn., Seattle*
556 HAILEY
558 LAWS
561 PRITCHETT
562 ROBINSON
563 ROSS
564 ROWE
565 SMALLEY
566 STODDARD
567 WATTS
568 WREN



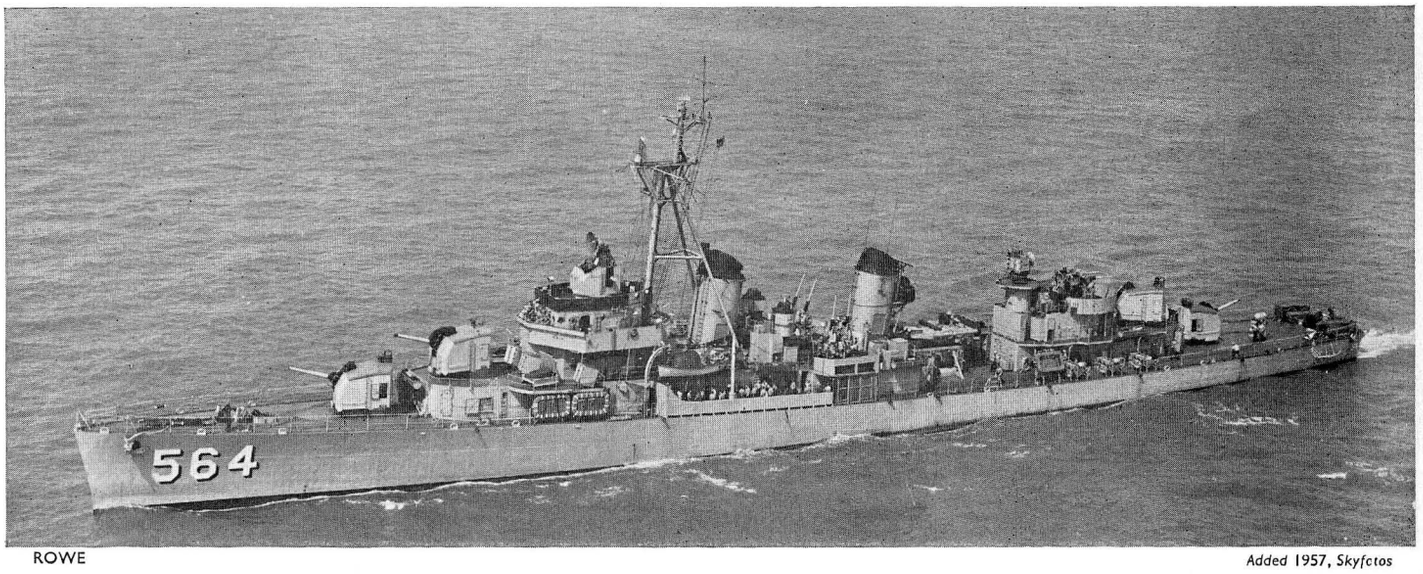
DALY 1956, *A. & J. Pavia*

Displacement:	2,100 tons *standard* (3,050 tons *full load*)
Dimensions:	376½ (*o.a.*) × 39½ × 12½ (*mean*), 18 (*max.*) feet
Guns:	5—5 inch, 38 cal d.p., 6—40 mm. Bofors, 10—20 mm. Oerlikon (see *Conversion Notes*) Rearmed ships: 4—5 inch, 38 cal., 6—3 inch, 50 cal. AA.
Tubes:	5—21 inch (quintupled). Some ships in reserve have two sets of 5 torpedo tubes
A/S weapons:	2 fixed Hedgehogs, 1 D.C. rack, 2 side-launching torpedo racks.
Machinery:	2 sets General Electric geared turbines. 2 shafts. S.H.P.: 60,000=35 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	300 (peace) 350 (war)

General Notes
Laid down under the 1940-41 Program. Builders above. During the war six units (including *Halford* in 1943) were experimentally fitted with a seaplane and catapult, in place of deckhouse between "Q" and "X" turrets (armament being temporarily reduced by 1—5 inch and 5 T.T.); and some, including *Young*, had only one set of tubes. All those with two sets now reduced to one. Eighteen of these ships were modified for duty as escort destroyers (DDE), viz.: *Bache*, *Beale*, *Conway*, *Cony*, *Eaton*, *Fletcher*, *Jenkins*, *Murray*, *Nicholas*, *O'Bannon*, *Philip*, *Radford*, *Renshaw*, *Saufley*, *Sproston*, *Taylor*, *Walker* and *Waller*—see above. War losses: *Abner Read*, *Brownson*, *Bush*, *Chevalier*, *De Haven*, *Halligan*, *Hoel*, *Johnston*, *Longshaw*, *Luce*, *Morrison*, *Pringle*, *Spence*, *Strong*, *Twiggs*, *William D. Porter*. Heavily damaged and subsequently scrapped: *Evans*, *Haggard*, *Leutze*, *Newcomb*, *Thatcher*. Sold: *Hutchins*. Cancelled: *Percival*, *Watson*.

A/S Weapon Notes
Fixed hedgehogs have been installed on the port and starboard sides of the forward shelter deck below the bridge wings.

Helicopter Notes
Hazlewood, DD 531, has a helicopter flight deck in place of her torpedo tubes, after twin 40 mm. gun mounting, and "X" 5 inch gun, with a small hangar on the port side abaft the funnels. She will be operating radio controlled ASW drone helicopters with release ASW weapons by remote control (see photograph on next page).



ROWE

Added 1957, Skyfotos

Destroyers (DD)—*continued*

63 "Fletcher" Class—*continued*

Name	*Laid down*	*Launched*	*Completed*
Abbot	21 Sep. 1942	17 Feb. 1943	23 Apr. 1943
Ammen	29 Nov. 1941	17 Sep. 1942	12 Mar. 1943
Bell	24 Feb. 1942	24 June 1942	4 Mar. 1943
Boyd	2 Apr. 1942	29 Oct. 1942	8 May 1943
Bradford	28 Apr. 1942	12 Dec. 1942	12 June 1943
Braine	12 Oct. 1942	7 Mar. 1943	11 May 1943
Brown	27 June 1942	22 Feb. 1943	10 July 1943
Burns	9 May 1942	8 Aug. 1942	3 Apr. 1943
Cowell	7 Sep. 1942	18 Apr. 1943	23 Aug. 1943
Daly	29 Apr. 1942	24 Oct. 1942	9 Mar. 1943
Erben	28 Oct. 1942	21 Mar. 1943	28 May 1943
Foote	14 Apr. 1942	11 Oct. 1942	22 Dec. 1942
Fullam	10 Dec. 1941	16 Apr. 1942	2 Mar. 1943
Hale	23 Nov. 1942	4 Apr. 1943	15 June 1943
Halford	3 June 1941	29 Oct. 1942	1 May 1943
Hailey	11 Apr. 1942	9 Mar. 1943	30 Sep. 1943
Haraden	3 June 1942	19 Mar. 1943	16 Sep. 1943
Harrison	25 July 1941	7 May 1942	25 Jan. 1943
Hart	10 Aug. 1943	25 Sep. 1944	1 Dec. 1944
Hazlewood	1 Apr. 1942	20 Nov. 1942	18 June 1943
Heerman	8 May 1942	5 Dec. 1942	6 July 1943
Howorth	26 Nov. 1941	10 Jan. 1943	1 May 1944
Hudson	23 Feb. 1942	3 June 1942	13 Apr. 1943
Isherwood	12 May 1942	24 Nov. 1942	10 Apr. 1943
Izard	9 May 1942	8 Aug. 1942	15 May 1943
John D. Henley	21 July 1941	15 Nov. 1942	2 Feb. 1944
John Rodgers	25 July 1941	7 May 1942	9 Feb. 1943
Killen	26 Nov. 1941	10 Jan. 1943	1 June 1944
Kimberly	27 July 1942	4 Feb. 1943	22 May 1943
La Vallette	27 Nov. 1941	21 June 1942	11 Aug. 1942
Laws	19 May 1942	22 Apr. 1943	18 Nov. 1943
Metcalf	10 Aug. 1943	25 Sep. 1944	15 Dec. 1944
Miller	18 Aug. 1942	7 Mar. 1943	31 Aug. 1943
Mullany	15 Jan. 1942	10 Oct. 1942	23 Apr. 1943
McCord	17 Mar 1942	10 Jan. 1943	19 Aug. 1943
McKee	2 Mar. 1942	2 Aug. 1942	31 Mar. 1943
Owen	17 Sep. 1942	21 Mar. 1943	20 Sep. 1943
Paul Hamilton	20 Jan. 1943	7 Apr. 1943	15 Nov. 1943
Prichett	20 July 1942	31 July 1943	15 Jan. 1944
Robinson	12 Aug. 1942	28 Aug. 1943	31 Jan. 1944
Ross	7 Sep. 1942	10 Sep. 1943	21 Feb. 1944
Rowe	7 Dec. 1942	30 Sep. 1943	13 Mar. 1944
Schroeder	25 June 1942	11 Nov. 1942	31 Dec. 1942
Shields	10 Aug. 1943	25 Sep. 1944	22 Feb. 1945
Sigourney	7 Dec. 1942	24 Apr. 1943	29 June 1943
Sigsbee	22 July 1942	7 Dec. 1942	22 Jan. 1943
Smalley	9 Feb. 1943	27 Oct. 1943	31 Mar. 1944
Stanley	30 Dec. 1941	2 May 1942	15 Oct. 1942
Stembel	21 Dec. 1942	8 May 1943	16 July 1943
Stephen Potter	27 Oct. 1942	28 Apr. 1943	21 Oct. 1943
Stevens	30 Dec. 1941	24 June 1942	1 Feb. 1943
Stoddard	10 Mar. 1943	19 Nov. 1943	15 Apr. 1944
Terry	8 June 1942	22 Nov. 1942	26 Jan. 1943
The Sullivans	10 Oct. 1942	4 Apr. 1943	30 Sep. 1943
Tingey	22 Oct. 1942	28 May 1943	25 Nov. 1943
Trathen	18 July 1942	22 Oct. 1942	28 May 1943
Twining	20 Nov. 1942	11 July 1943	1 Dec. 1943
Watts	26 Mar. 1943	31 Dec. 1943	29 Apr. 1944
Wickes	15 Apr. 1942	13 Sep. 1942	16 June 1943
Wiley	10 Aug. 1943	25 Sep. 1944	14 Mar. 1945
Wren	24 Apr. 1943	29 Jan. 1944	20 May 1944
Yarnall	5 Dec. 1942	25 July 1943	30 Dec. 1943
Young	7 May 1942	11 Oct. 1942	31 July 1943

Experimental Notes

Fullam, DD 474, *Howorth*, DD 592, and *Killen*, DD 593, were trials ships in the 1958 atomic weapons tests. Now in reserve.

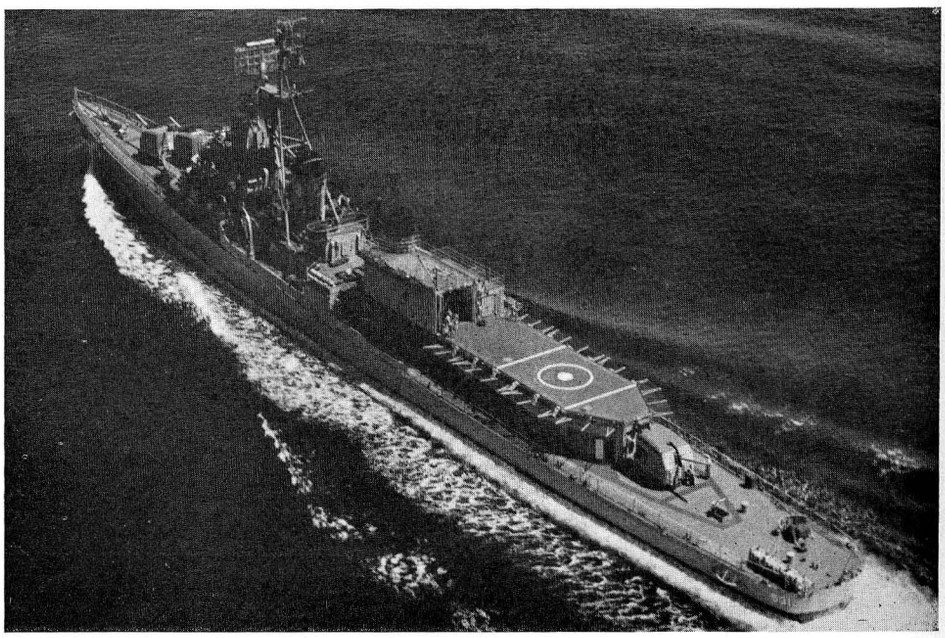
Fullam is being used as a test hull to determine the effects of underwater explosions, by Norfolk Naval Shipyard, 1960.

Appearance Notes

All Bethlehem-built ships of this class have flat-sided funnels.

Photograph Notes

A large starboard quarter aerial view of *Boyd* appears in the 1957-58 (Diamond Jubilee) edition, a port quarter oblique aerial view of *Twining* in the 1957-58 to 1959-60 editions, and a port bow aerial view of *Ross* in the 1954-55 to 1957-58 editions.



HAZLEWOOD (as converted with helicopter hangar and flight deck aft)

1960, "*Our Navy*"



WATTS

Added 1957, Official

Conversion Notes

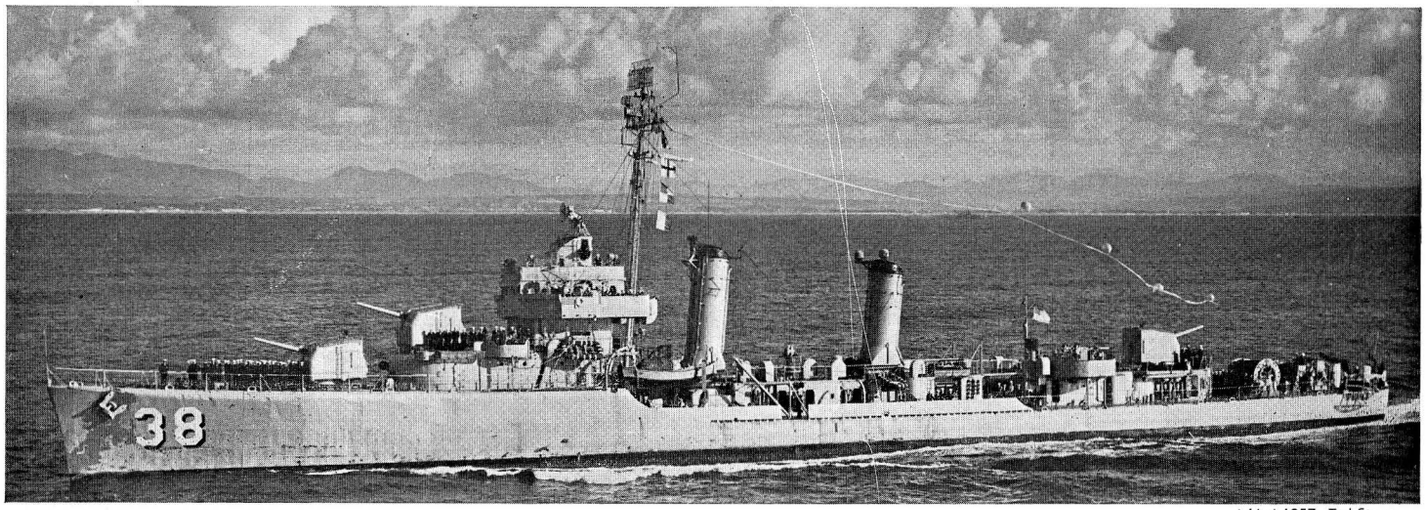
Boyd, *Cowell*, *Daly*, *Isherwood*, *Hailey*, *Mullany*, *Ross*, *Rowe*, *Smalley* and others have 4-5 inch (in "A," "B," "X" and "Y" positions), 6-3 inch (twin mount in "2" position and two twins amidships between funnels), 5-21 inch (quintuple bank abaft after funnel) and tripod mast. The forward bank of tubes were suppressed (3 inch now mounted in their place). See photo of *Rowe*. All active units rearmed, but over half the class are in reserve and mount their original armament.

Hazlewood has been converted with a flight deck and hangar to operate helicopters (see *Helicopter Notes* on previous page).

Transfer Notes

Of this class the *Anthony*, DD 515, was transferred to the West German Federal Republic in 1957. *Capps*, DD 550, and *David W. Taylor*, DD 551, were transferred to Spain in 1957. *Aulick*, DD 569, *Charette*, DD 581, and *Conner*, DD 582, were transferred to Greece in 1959. *Converse*, DD 509, was transferred to Spain in 1959 *Bennett*, DD 473, *Franks*, DD 554, and *Guest*, DD 472, were transferred to Brazil in 1959. *Charles Ausburn*, DD 570, *Claxton*, DD 571, *Dyson*, DD 572, *Ringgold*, DD 500, and *Wadsworth*, DD 516, were transferred to the West German Federal Republic in 1958-60. *Hall*, DD 583, was transferred to Greece on 9 Feb. 1960.

Destroyers—*continued*



THOMPSON

Added 1957, *Ted Stone*

Destroyers (DD)

36 "Gleaves" Class (including former Destroyer Minesweepers)

3 *Bath Iron Works Corpn.*

DD
423 GLEAVES
424 NIBLACK
437 WOOLSEY

6 *Boston Navy Yard*

632 COWIE
634 DORAN
635 EARLE
462 FITCH
633 KNIGHT
441 WILKES

3 *Charleston Navy Yard*

435 GRAYSON
443 SWANSON
641 TILLMAN

1 *Norfolk Navy Yard*

638 HERNDON

1 *Philadelphia Navy Yard*

637 GHERARDI

11 *Federal S.B. & D.D. Co.*

DD
618 DAVISON
439 EDISON
619 EDWARDS
440 ERICSSON
455 HAMBLETON
621 JEFFERS
432 KEARNEY
623 NELSON
645 STEVENSON
646 STOCKTON
647 THORN

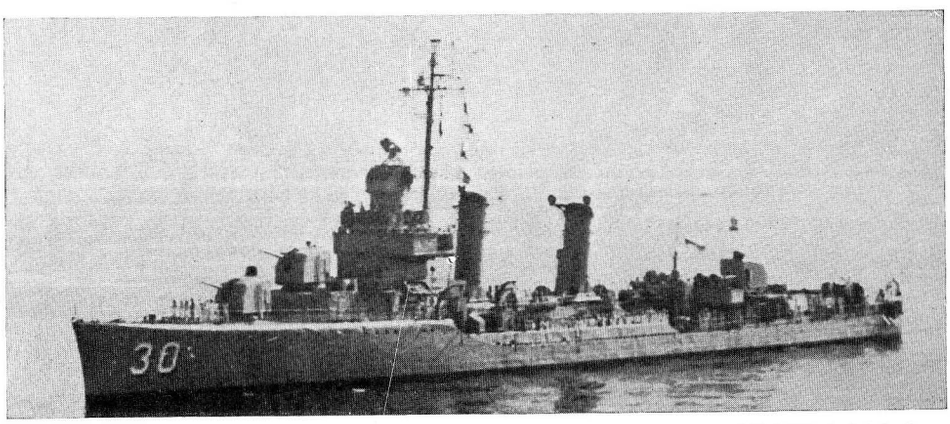
11 *Seattle-Tacoma S.B., Corpn., Seattle*

624 BALDWIN
493 CARMICK
494 DOYLE
495 ENDICOTT
497 FRANKFORD
496 McCOOK
489 MERVINE
490 QUICK
626 SATTERLEE
627 THOMPSON
628 WELLES



GHERARDI (showing sweeping gear)

Added 1959, *A. & J. Pavia*



GHERARDI

Added 1956, *A. & J. Pavia*

Displacement:	1,700 tons *standard* (2,580 tons *full load*)
Dimensions:	341 (*w.l.*), 348⅝ (*o.a.*) × 36 × 10 (*light*), 18 (*max.*) feet
Guns:	4—5 inch, 38 cal., 4—40 mm. Bofors AA., 4 to 7—20 mm. Oerlikon AA. (see notes)
Tubes:	5—21 inch
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 50,000=37·4 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	600 tons
Radius:	5,000 miles at 15 kts.
Complement:	250 (war)

Name	*Laid down*	*Launched*	*Completed*
Baldwin	16 July 1941	1 June 1942	30 Apr. 1942
Carmick	29 May 1941	8 Mar. 1942	28 Dec. 1942
Cowie	18 Mar. 1941	27 Sep. 1941	1 June 1943
Davison	26 Feb. 1942	19 July 1942	11 Sep. 1942
Doran	14 June 1941	10 Dec. 1941	4 Aug. 1942
Doyle	29 May 1941	17 Mar. 1942	27 Jan. 1943
Earle	14 June 1941	10 Dec. 1941	1 Sep. 1942
Edison	18 Mar. 1940	23 Nov. 1940	30 Jan. 1941
Edwards	26 Feb. 1942	19 July 1942	17 Sep. 1942
Endicott	1 May 1941	5 Apr. 1942	25 Feb. 1943
Ericsson	18 Mar. 1940	23 Nov. 1940	11 Mar. 1941
Fitch	6 Jan. 1941	14 June 1941	3 Feb. 1943
Frankford	5 June 1941	17 May 1942	31 Mar 1942
Gherardi	16 Sep. 1941	12 Feb. 1942	15 Sep. 1942
Gleaves	16 May 1938	9 Dec. 1939	May 1940
Grayson	17 July 1939	7 Aug. 1940	15 Apr. 1941
Hambleton	16 Dec. 1940	26 Sep. 1941	22 Dec. 1941
Herndon	26 Aug. 1941	5 Feb. 1942	20 Dec. 1942
Jeffers	25 Mar. 1942	26 Aug. 1942	4 Nov. 1942
Kearney	1 Mar. 1939	9 Mar. 1940	13 Sep. 1940
Knight	18 Mar. 1941	27 Sep. 1941	23 June 1942
McCook	1 May 1941	3 May 1942	15 Mar. 1943
Mervine	3 Nov. 1941	3 May 1942	16 June 1942
Nelson	7 May 1942	15 Sep. 1942	25 Nov. 1942
Niblack	8 Aug. 1938	18 May 1940	1 Aug. 1940
Quick	3 Nov 1941	3 May 1942	2 July 1942
Satterlee	10 Sep. 1941	17 July 1942	1 July 1943
Stevenson	23 July 1942	11 Nov. 1942	14 Dec. 1942
Stockton	24 July 1942	11 Nov. 1942	9 Jan. 1943
Swanson	15 Nov 1939	2 Nov. 1940	15 July 1941
Thompson	22 Sep. 1941	10 Aug. 1942	10 July 1943
Thorn	15 Nov. 1942	28 Feb. 1943	31 Mar. 1943
Tillman	8 Sep. 1941	20 Dec. 1941	4 June 1942
Welles	27 Sep. 1941	7 Sep. 1942	16 Aug. 1943
Wilkes	1 Nov. 1939	31 May 1940	12 June 1941
Woolsey	9 Oct. 1939	12 Feb. 1940	7 May 1941

General Notes

Butler, DMS 29, *Forrest*, DMS 24, and *Harding*, DMS 28, were scrapped. *Hobson*, DMS 26, sank in mid-Atlantic, 27 Apr. 1952, after collision with the aircraft carrier *Wasp* during a night exercise.

All the remaining ships of this class are out of commission in reserve.

Gunnery Notes

Armament of former Destroyer Minesweepers (DMS) comprises 3—5 inch, 38 cal.; 4—40 mm. AA.; 4 to 5—20 mm. AA.

Reclassification Notes

Doyle, *Jeffers*, *Hambleton* and *Rodman*, formerly rated as high speed minesweepers DMS 34, DMS 27, DMS 20 and DMS 21, respectively, were reclassified as destroyers on 15 Jan. 1955. *Carmick*, *Cowie*, *Davison*, *Doran*, *Earle*, *Endicott*, *Fitch*, *Gherardi*, *Knight*, *McCook*, *Mervine*, *Quick* and *Thompson*, formerly rated as Destroyer Minesweepers DMS 33, DMS 39, DMS 37, DMS 41, DMS 42, DMS 35, DMS 25, DMS 30, DMS, 40, DMS 36, DMS 31, DMS 32 and DMS 38, respectively, reverted to Destroyer (DD) status on 15 July 1955.

Appearance Notes

Seattle-built ships of this class have square-faced bridges with director on bridge instead of mounted on a pedestal.

Photograph Notes

Broadside silhouette photograph of *Fitch* (as DMS) and port bow aerial view of *Woolsey* (as DD) in the 1957-58 edition.

Second World War losses: *Aaron Ward*, *Beatty*, *Bristol*, *Corry*, *Emmons*, *Duncan*, *Glennon*, *Gwin*, *Ingraham*, *Maddox*, *Meredith*, *Monssen*, *Turner*. In addition, *Shubrick* was so badly damaged that she was scrapped.

Transfer Notes

Buchanan and *McCalla* were transferred to Turkey in 1949 and *Lansdowne* and *Lardner* in 1950. *Eberle* and *Ludlow* were transferred to Greece in 1951. *Nicholson* was transferred to Italy in 1951. *Ellyson* and *Macomb*, formerly rated as high speed minesweepers, DMS 19 and DMS 23, respectively, were reclassified as destroyers, DD 454 and DD 458, respectively, in May 1954, and lent to the Japanese Navy in Oct. 1954. *Rodman* was transferred to Nationalist China at Charleston, South Carolina, on 28 July, 1955. *Plunkett*, DD 431, was transferred to Nationalist China on 16 Feb. 1959.

Recent Disposals

Livermore of this class (DD 429) was stricken from the Navy List on 19 July 1956, and expended in tests during 1957-58.

The experimental destroyer *Timmerman*, AG 152, ex-EDD 828, of the Modified "Gearing" Type, see page 376, 1958-59 edition, was stricken from the Navy List in 1958, and scrapped in 1959.

Destroyers—*continued*

Destroyers (DD)

24 "Mayo" Class

6 Bethlehem (Quincy)

DD
598 BANCROFT
600 BOYLE
601 CHAMPLIN
422 MAYO
616 NIELDS
617 ORDRONAUX

4 Bethlehem (S. Pedro)

612 KENDRICK
613 LAUB
614 MACKENZIE
615 McLANAHAN

5 Bethlehem (Staten Island)

492 BAILEY
491 FARENHOLT
602 MEADE
603 MURPHY
604 PARKER

7 Bethlehem (S. Francisco)

DD
605 CALDWELL*
606 COGHLAN
607 FRAZIER
608 GANSEVOORT
609 GILLESPIE
610 HOBBY
611 KALK

1 Boston Navy Yard

425 MADISON

1 Puget Sound Navy Yard

428 CHARLES F. HUGHES

Displacement:	1,620 tons *standard* (2,575 tons *full load*)
Dimensions:	348½ (*o.a.*) × 35½ × 10 (*light*), 18 (*max.*) feet.
Guns:	4—5 inch, 38 cal., 4—40 mm AA.; 7—20 mm. AA.
Tubes:	5—21 inch (quintupled) see notes.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 50,000=36·5 kts.
Boilers:	4 high pressure
Complement:	250

General Notes

Built to the design of the Bethlehem Steel Co. War losses: *Barton, Laffey. Landsdale.* All out of commission, in reserve. * *Caldwell*, DD 605, is awaiting disposal.

Appearance Notes

All ships of this class have flat-sided funnels. Reported some still have 10 torpedo tubes. Cthers have none.

Conversion Notes

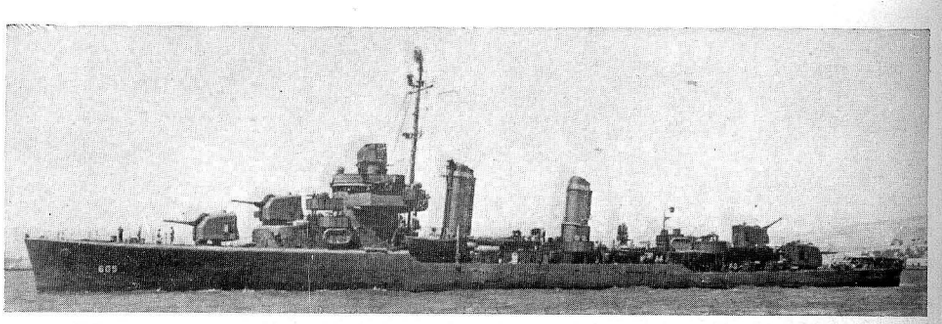
Two destroyers of this class were to have been converted to Corvettes (DDC) as prototypes for conversion of "Gleaves" and "Mayo" classes. Conversion plans provided for the removal of two boilers and the addition of new sonar installation.

Transfer Notes

Woodworth, DD 460, was transferred to Italy in 1951. *Benson*, DD 421, and *Hilary P. Jones*, DD 427 were transferred to Nationalist China in 1954 (announced Nov. 1953).

Recent Disposals

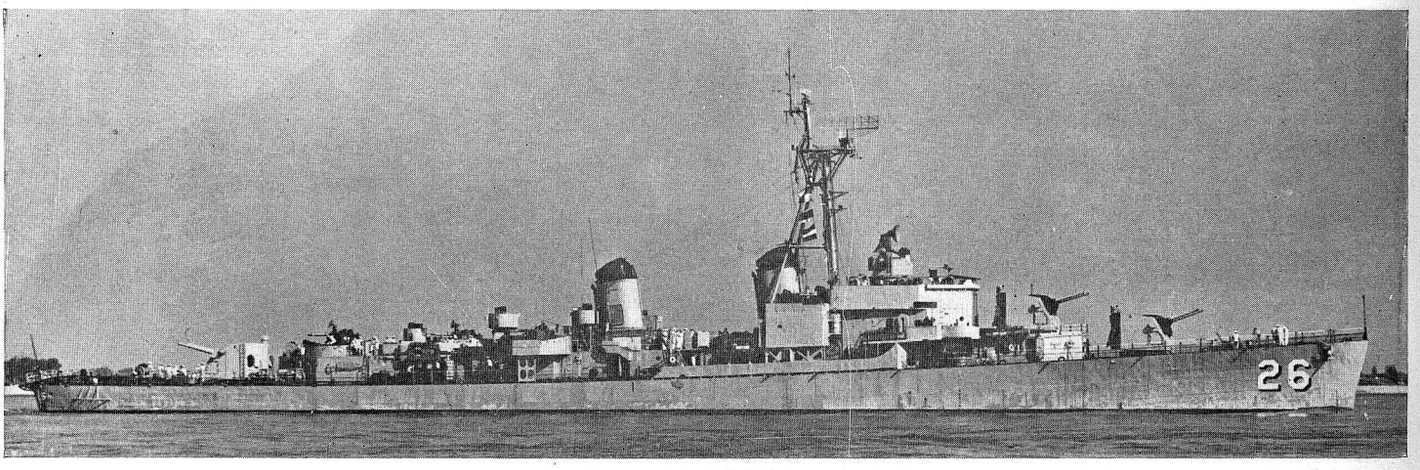
The old destroyer *Winslow*, AG 127 (ex-DD 359), of the "Selfridge" class, modified for radar picket duty and experimental ordnance testing, was stricken from the list of Naval vessels in Jan. 1958.



CALDWELL — 1951, *U.S. Navy, Official*

Name	*Laid down*	*Launched*	*Completed*
Bailey	29 Jan. 1941	19 Dec. 1941	11 May 1942
Bancroft	20 May 1941	31 Dec. 1941	30 Apr. 1942
Boyle	31 Dec. 1941	15 June 1942	15 Aug. 1942
Caldwell	24 Mar. 1941	15 Jan. 1942	10 June 1942
Champlin	31 Jan. 1942	25 July 1942	12 Sep. 1942
Charles F Hughes	3 Jan. 1939	16 May 1940	18 Oct 1940
Coghlan	28 Mar. 1941	16 Feb. 1942	10 July 1942
Farenholt	11 Dec. 1940	19 Nov. 1941	2 Apr. 1942
Frazier	5 July 1941	17 Mar. 1942	30 July 1942
Gansevoort	16 June 1941	11 Apr 1942	25 Aug. 1942
Gillespie	16 June 1941	5 May 1942	16 Sep. 1942
Hobby	30 June 1941	4 June 1942	18 Nov. 1942
Kalk	30 June 1941	18 July 1942	17 Oct. 1942
Kendrick	1 May 1941	2 Apr. 1942	12 Sep 1942
Laub	1 May 1941	1 June 1942	24 Oct. 1942
McLanahan	29 May 1941	7 Sep. 1942	19 Dec. 1942
Mackenzie	1 May 1941	27 June 1942	21 Nov. 1942
Madison	19 Dec. 1938	20 Oct. 1939	6 Dec. 1940
Mayo	16 May 1938	26 Mar. 1940	18 Sep. 1940
Meade	25 Mar. 1941	15 Feb. 1942	22 June 1942
Murphy	19 May 1941	29 Apr. 1942	25 July 1942
Nields	15 June 1942	1 Oct. 1942	15 Jan. 1943
Ordronaux	25 July 1942	9 Nov. 1942	13 Feb. 1943
Parker	9 June 1941	12 May 1942	29 Aug. 1942

DESTROYER MINELAYERS (DM) Ex-Destroyers



HARRY F. BAUER — *Added* 1957, *U.S Navy, Official*

10 "Smith" Class

(Modified "Allen M. Sumner" Class)

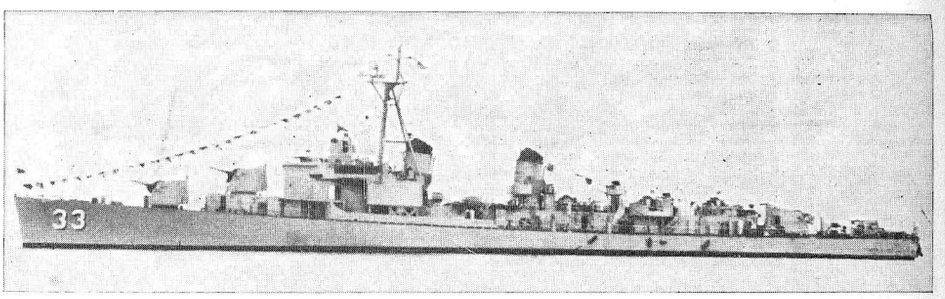
DM
27 ADAMS (ex-DD 739)
33 GWIN (ex-DD 772)
26 HARRY F. BAUER (ex-DD 738)
29 HENRY A. WILEY (ex-DD 749)
32 LINDSEY (ex-DD 771)

DM
23 ROBERT H. SMITH (ex-DD 735)
25 SHANNON (ex-DD 737)
30 SHEA (ex-DD 750)
24 THOMAS E. FRASER (ex-DD 736)
28 TOLMAN (ex-DD 740)

Displacement:	2,250 tons *standard* (3,375 tons *full load*)
Dimensions:	376½ × 41 × 12½ (*mean*) 19 (*max.*) feet
Guns:	6—5 inch, 38 cal., 12—40 mm. AA., 11—20 mm. AA. (All active units rearmed with 6—3 inch, 50 cal. in place of 40 mm.)
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=34 kts.
Boilers:	4 Babcock & Wilcox
Oil fuel:	650 tons
Radius:	6,000 miles at 15 kts.
Complement:	350

General Notes

Modified Destroyers of "Allen M. Sumner" class. Later fitted with tripod masts. All out of commission, in reserve.



GWIN — 1956, *courtesy Godfrey H. Walker, Esq.*

Building Notes

DM 23-28 built by Bath Iron Works, DM 29, 30 by Bethlehem Steel Co., Staten Island, N.Y., and DM 32-33 by Bethlehem Steel Co., San Pedro, California.

Reclassification Notes

Formerly known as Light Minelayers (DM). Reclassified as Destroyer Minelayers (DM) in Feb. 1955.

Disposal Notes

J. Wm. Ditter, DM 31, and *Aaron Ward*, DM 24, were scrapped

Name	*Launched*	*Completed*
Adams	23 July 1944	10 Oct. 1944
Gwin	9 Apr. 1944	30 Sep. 1944
Harry F. Bauer	9 July 1944	22 Sep. 1944
Henry A. Wiley	21 Apr. 1944	31 Aug. 1944
Lindsey	5 Mar. 1944	20 Aug. 1944
Robert H Smith	25 May 1944	4 Aug. 1944
Shannon	24 June 1944	8 Sep. 1944
Shea	20 May 1944	30 Sep. 1944
Thomas E. Fraser	10 June 1944	22 Aug. 1944
Tolman	13 Aug. 1944	27 Oct. 1944

DESTROYER ESCORTS (DE)

Rated as **Escort Ships** (DE)

4 Ocean Convoy (Anti-Submarine) Type

New Construction

2 *Avondale Marine Ways, Inc., New Orleans, Louisiana.*

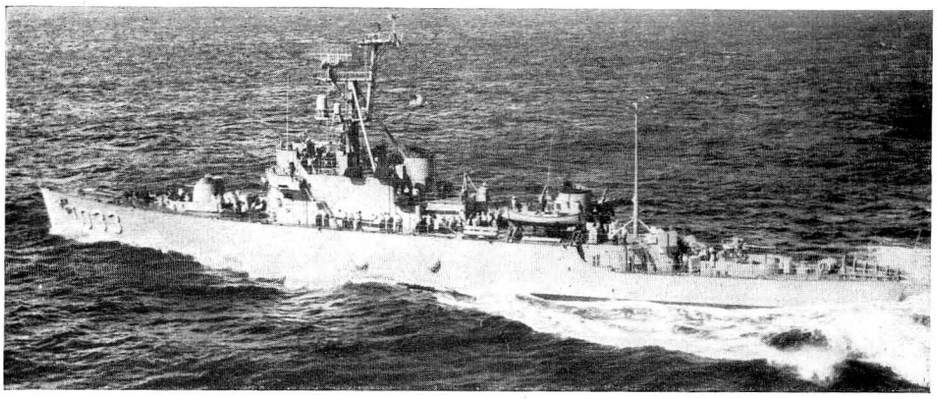
DE 1037 **DE 1038**

Displacement:	1,640 tons *light* (2,600 tons *full load*)
Dimensions:	371 (*o.a.*) × 40 × 18 (*max.*) feet
Guns:	3—3 inch, 50 cal., in gunhouses (twin forward, single aft)
A/S weapons:	Rocket launcher (ASROC), torpedo launchers
Aircraft:	Drone anti-submarine helicopter (DASH) carrying ASW torpedoes
Boiler:	Newly developed pressure fired

General Notes

An entirely new class. Two being built under the Fiscal Year 1960 Program. and two under the 1961 Program.

Especially designed for optimum performance in locating and destroying submarines. They will carry the integral bow mounted long range sonar, and gyro stabilisers.



CLAUD JONES 1959, *U.S. Navy, Official*

4 "Claud Jones" Class

4 *Avondale Marine Ways, Inc., New Orleans, Louisiana*

DE 1035 CHARLES BERRY
1036 McMORRIS

DE 1033 CLAUD JONES
1034 JOHN R. PERRY

Displacement:	1,315 tons *light*, 1,450 tons *standard* (1,750 tons *full load*)
Dimensions:	312 (*o.a.*) × 38½ × 9½ (*mean*), 14¼ (*max.*) feet.
Guns:	2—3 inch, 50 cal. d.p. AA. with forward 3 inch in gunhouse
A/S weapons:	2 hedgehog launchers forward, 1 D.C.T.
Machinery:	4 Fairbanks-Morse diesels with reduction drive. 1 shaft.
Complement:	175

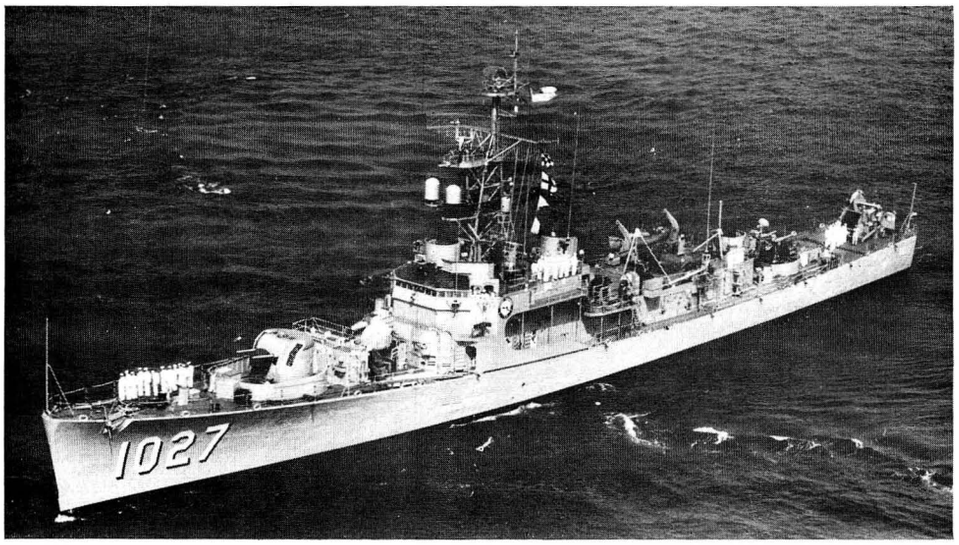
General Notes

Claud Jones and *John R. Perry* were provided under the 1956 fiscal appropriations and *Charles Berry* and *McMorris* under the 1957 program. The latter two, originally ordered from American S.B. Co., Lorain, Ohio, were completed by Avondale Marine Ways. They embody new features including a unique upper deck arrangement, aluminium masts and deck house. Cruising range of 7,000 miles.

Engineering Notes

Claud Jones DE 1033 and *John R. Perry* DE 1034, *Charles Berry* DE 1035 and *McMorris* DE 1036, have diesel main propelling machinery plants, which cost less and have increased endurance, and two funnels instead of one as in the "Dealey" type.

Name	*Laid down*	*Launched*	*Completed*
Claud Jones	1 June 1957	27 May 1958	10 Feb. 1959
John R. Perry	1 Oct. 1957	29 July 1958	5 May 1959
Charles Berry	29 Oct. 1958	17 Mar. 1959	25 Nov. 1959
McMorris	5 Nov. 1958	26 May 1959	4 Mar. 1960



JOHN WILLIS (variable depth sonar gear on stern) 1960, *United States Navy, Official*

13 "Dealey" and "Evans" Classes

3 *Bath Iron Works Corpn.*
1006 DEALEY
1014 CROMWELL
1015 HAMMERBERG

2 *Bethlehem-Pacific Coast Steel*
1025 BAUER
1026 HOOPER (*ex-Gatch*)

2 *Defoe S.B. Co., Bay City,*
1021 COURTNEY
1022 LESTER

4 *New York S.B. Corpn.*
1027 JOHN WILLIS
1028 VAN VOORHIS
1029 HARTLEY
1030 JOSEPH K. TAUSSIG

2 *Puget Sound B. & D. Co.*
1023 EVANS
1024 BRIDGET

Displacement:	1,270 to 1,280 tons *light*, 1,450 tons *standard* (1,914 tons *full load*)
Dimensions:	314½ (*o.a.*) × 36¾ × 9½ to 9¼ (*mean*) 13¾ (*max.*) feet
Guns:	4—3 inch, 50 cal., d.p. AA. (2 twin)
A/S weapons:	1 Mark 108 Launcher, Weapons Able (except *Dealey* which has 2 British Squids), 1 D.C.T., 8 D.C. Projectore, 2 fixed T.T.
Machinery:	De Laval geared turbine. 1 shaft. S.H.P.: 20,000=25 kts.
Boilers:	2 Foster Wheeler
Oil fuel:	400 tons
Radius:	4,500 miles at 15 kts.
Complement:	*Dealey* class 149 (9 officers, 140 men), *Evans* class 170 (11 officers, 159 men)

General Notes

Dealey was the prototype for new and modern anti-submarine vessels. Lavishly equipped with electronic gear. Designed specifically for fast convoy work and constructed in such a manner that in the event of war similar DEs could be built rapidly. Single engineroom. Twin rudders. Single screw, all aluminium superstructure saving 40 per cent in weight.

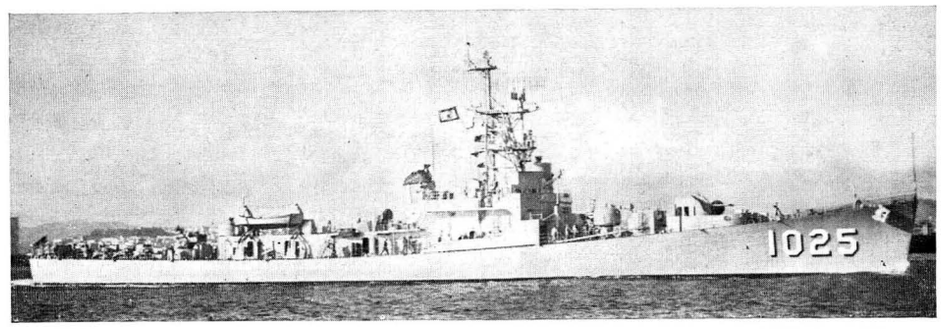
Class Notes

The first five ships are known as the "Dealey" class and the later eight as the "Evans" class.

Name	*Laid down*	*Launched*	*Completed*
Cromwell	3 Aug. 1953	4 June 1954	24 Nov. 1954
Dealey	15 Oct. 1952	8 Nov. 1953	3 June 1954
Hammerberg	12 Nov 1953	20 Aug. 1954	28 Feb. 1955
Courtney	2 Sep. 1954	2 Nov. 1955	31 Aug. 1956
Lester	2 Sep. 1954	5 Jan. 1956	14 June 1957
Evans	8 Apr. 1955	14 Sep. 1955	14 June 1957
John Willis	5 July 1955	4 Feb. 1956	21 Feb. 1957
Van Voorhis	29 Aug. 1955	28 July 1956	15 Apr. 1957
Bridget	19 Sep. 1955	25 Apr. 1956	24 Oct. 1957
Hartley	31 Oct. 1955	24 Nov. 1956	30 July 1957
Hooper	4 Jan. 1956	1 Aug. 1957	16 Apr. 1958
J. K. Taussig	3 Jan. 1956	3 Jan. 1957	10 Sep. 1957
Bauer	1 Dec. 1956	4 June 1957	22 Nov. 1957



HOOPER 1959, *U S. Navy, Official*



BAUER 1958, *U.S. Navy, Official*

Gunnery Notes

Dealey originally had an open twin 3 inch, 50 cal. mounting forward. All ships now have forward 3 inch mount in a gunhouse.

Photograph Notes

Large port bow aerial view of *Hooper* and broadside view of *Dealey* in the 1958-59 edition. Port bow view of *Hammerberg* in the 1957-58 to 1959-60 editions.

Destroyer Escorts—*continued*

Rated as

Escort Ships, Radar Picket (DER)

2 Converted "John C. Butler" Class

DER 540 VANDIVIER	DER 539 WAGNER	
Name:	*Vandivier*	*Wagner*
Builders:	Boston Naval Shipyard	Boston Naval Shipyard
Laid down:	8 Nov. 1943	8 Nov. 1943
Launched:	27 Dec. 1943	27 Dec. 1943
Completed:	1 Dec. 1955	31 Dec. 1955

Displacement:	1,260 tons *light*, 1,745 tons *standard* (2,100 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅔ × 8⅝ (*mean*), 11 (*max.*) feet
Guns:	2—5 inch 38 cal. d.p.
A/S weapons:	Hedgehogs and 2 torpedo launchers
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 12,000=24 kts.
Boilers:	2 Babcock & Wilcox water tube
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	187

General Notes

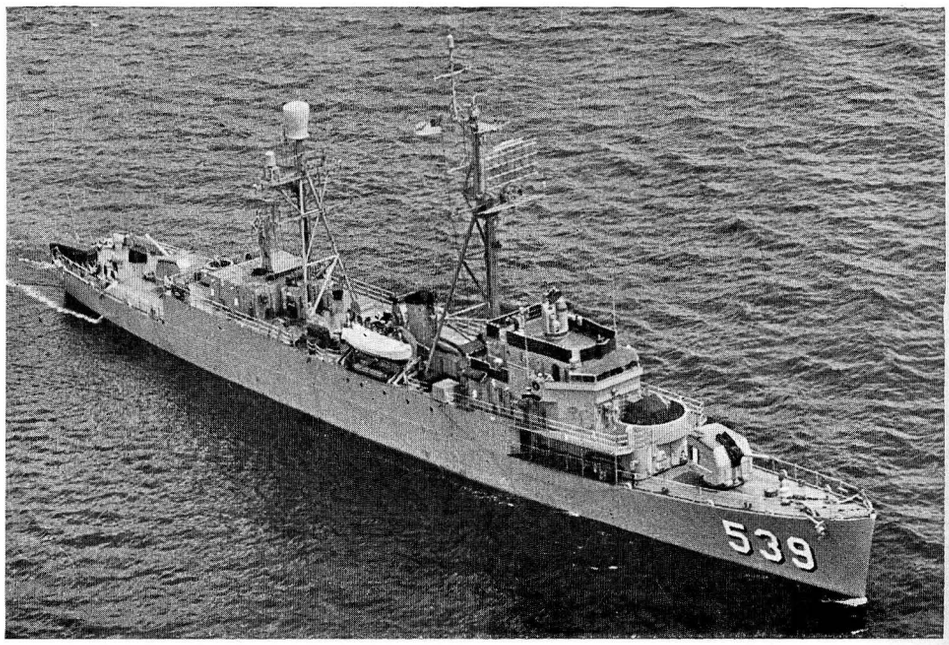
The completion of these two destroyer escorts (DEs) launched in 1943, was suspended in August 1946. Under the 1954 fiscal year new construction and modernisation program they were completed and converted to Radar Picket Escort Vessels (DERs) at Boston Naval Shipyard. Commissioned 11 Oct. 1955, and 22 Nov. 1955, respectively.

Gunnery Notes

The six 20 mm. guns formerly mounted have been removed.

Engineering Notes

These two ships are the only steam driven DERs among all the Radar Picket Destroyer Escorts.



WAGNER — 1957, *U.S. Navy, Official*

General Notes for DEs

Former Destroyer Escorts are now officially grouped under the generic heading of Patrol Ships with the specific classification of Escort Ships, but they approximate to the Frigate category in British and other navies.

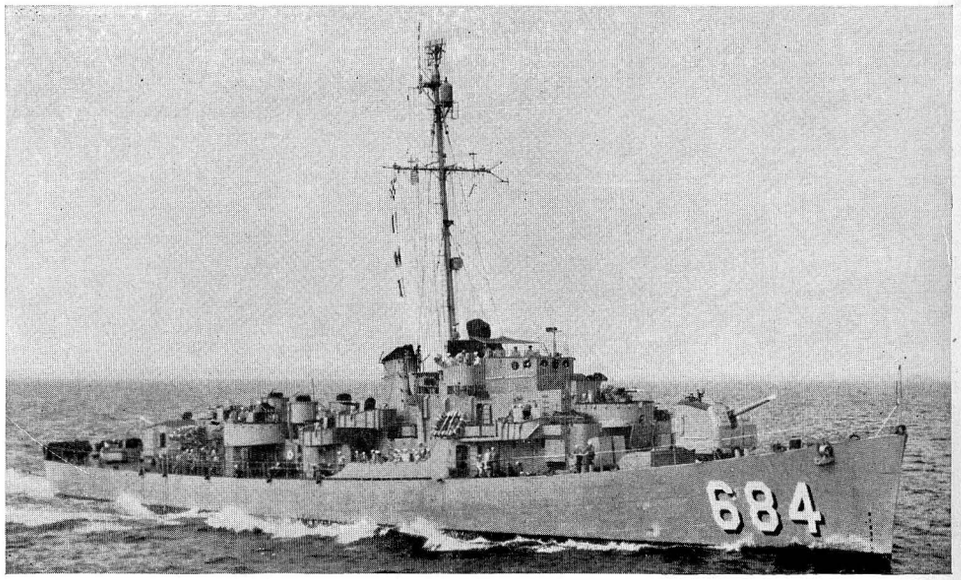
Rated as **Escort Ships** (DE)

20 "Rudderow" Class

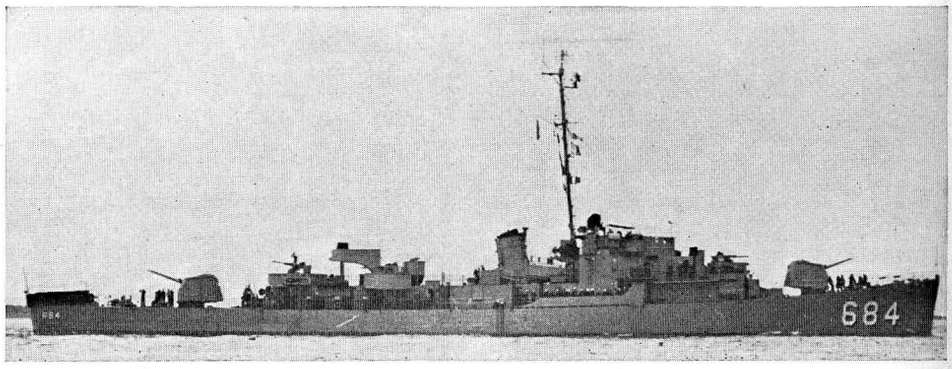
11 *Bethlehem-Hingham*	3 *Bethlehem, Quincy*
DE	**DE**
584 CHARLES J. KIMMEL	**685 COATES**
585 DANIEL A. JOY	**684 DE LONG**
583 GEORGE A. JOHNSON	**686 EUGENE E. ELMORE**
580 LESLIE L. B. KNOX	
586 LOUGH	
581 McNULTY	3 *Defoe Co., Bay City*
582 METIVIER	**706 HOLT**
588 PEIFFER	**707 JOBB**
579 RILEY	**708 PARLE**
587 THOMAS F. NICKEL	
589 TINSMAN	
	2 *Philadelphia Navy Yard*
1 *Charleston Navy Yard*	**225 DAY**
231 HODGES	**224 RUDDEROW**

Displacement:	1,450 tons *standard* (2,230 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅔ × 14 (*max.*) feet
Guns:	2—5 inch, 38 cal., 2—40 mm, 6—20 mm. (*De Long* 10—40 mm.)
A/S weapons:	D.C.T.
Machinery:	General Electric geared turbines, Turbo-electric propulsion. 2 shafts. S.H.P.: 12,000=24 kts.
Boilers:	2 water tube. Foster-Wheeler in DE 579-589, Babcock & Wilcox in DE 224, 225, Combustion Engineering in remainder
Oil fuel:	378 tons
Radius:	5,000 miles at 15 kts.
Complement:	220 (war)

Name	*Launched*	*Completed*
Charles H. Kimmel	15 Jan. 1944	20 Apr. 1944
Coates	9 Dec. 1943	24 Jan. 1944
Daniel A. Joy	15 Jan. 1944	28 Apr. 1943
De Long	23 Nov. 1943	31 Dec. 1944
Day	14 Oct. 1943	10 June 1944
Eugene E. Elmore	23 Dec. 1943	4 Feb. 1944
George A. Johnson	21 Jan. 1944	15 Apr. 1944
Hodges	9 Dec. 1943	27 May 1944
Holt	15 Dec. 1943	9 June 1944
Jobb	4 Mar. 1944	4 July 1944
Leslie L. B. Knox	8 Jan. 1944	22 Mar. 1944
Lough	22 Jan. 1944	2 May 1944
McNulty	8 Jan. 1944	31 Mar. 1944
Metivier	12 Jan. 1944	7 Apr. 1944
Parle	25 Mar. 1944	29 July 1944
Peiffer	26 Jan. 1944	15 June 1944
Riley	29 Dec. 1943	13 Mar. 1944
Rudderow	14 Oct. 1943	15 May 1944
Thomas F. Nickel	22 Jan. 1944	9 June 1944
Tinsman	29 Jan. 1944	26 June 1944



DE LONG — *Added* 1957, *U.S. Navy, Official*



Broadside silhouette — 1955, *courtesy B. L. Devenish-Meares, Esq.*

otes

62 ships of this type were built. Originally rated as Destroyer Escorts (DE) but now grouped under Patrol Ships (Escort Ships). The original 3—21 inch torpedo tubes were removed. *Chaffee* (DE 230) scrapped. DE 226-229, 232-237, 590-606, 687-692. 710-722 were converted into Fast Transports (APD).

Destroyer Escorts—*continued*

Rated as **Escort Ships** (DE)

75 "John C. Butler" Class

8 *Boston Naval Shipyard*

DE
536 BIVIN
531 EDWARD H. ALLEN
533 HOWARD F. CLARK
535 LEWIS A/S
538 OSBERG
527 RIZZI
534 SILVERSTEIN
532 TWEEDY A/S

20 *Brown S.B. Co., Houston*

421 CHESTER T. O BRIEN
405 DENNIS
422 DOUGLAS A. MUNRO
423 DUFILHO
406 EDMONDS
424 HAAS
410 JACK MILLER
409 LA PRADE
415 LAWRENCE C. TAYLOR
420 LELAND E. THOMAS
414 LE RAY WILSON
416 MELVIN R. NAWMAN
417 OLIVER MITCHELL
403 RICHARD M. ROWELL
402 RICHARD S. BULL
419 ROBERT F. KELLER
411 STAFFORD
408 STRAUS
418 TABBERER
412 WALTER C. WANN

33 *Consolidated Steel Corpn., Orange*

343 ABERCROMBIE
366 ALVIN C. COCKRELL ASW
368 CECIL J. DOYLE
353 DOYLE C. BARNES
346 EDWIN A. HOWARD
367 FRENCH
349 GENTRY
357 GEORGE E. DAVIS
355 JACCARD

DE
347 JESSE RUTHERFORD
339 JOHN C. BUTLER
370 JOHN L. WILLIAMSON
360 JOHNNIE HUTCHINS
354 KENNETH M. WILLETT
348 KEY
356 LLOYD E. ACREE
365 McGINTY
358 MACK
351 MAURICE J. MANUEL
352 NAIFEH
340 O FLAHERTY
363 PRATT
371 PRESLEY
341 RAYMOND
342 RICHARD W. SUESENS
345 ROBERT BRAZIER
362 ROLF
364 ROMBACH
369 THADDEUS PARKER
350 TRAW
361 WALTON
372 WILLIAMS
359 WOODSON

14 *Federal S.B. & D.D. Co., Port Newark*

447 ALBERT T. HARRIS
446 CHARLES E. BRANNON
439 CONKLIN
438 CORBESIER
448 CROSS
508 GILLIGAN
444 GOSS
445 GRADY
449 HANNA
510 HEYLIGER
443 KENDALL C. CAMPBELL
450 JOSEPH E. CONNOLLY
442 ULVERT M. MOORE
441 WILLIAM SEIVERLING

Displacement:	1,350 tons *standard* (2,100 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 9½ (*mean*), 11 (*max.*) feet
Guns:	2—5 inch, 38 cal., 2—40 mm. AA. 6—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	Westinghouse or General Electric geared turbines. 2 shafts. S.H.P.: 12,000=24 kts.
Boilers:	2 water tube (Combustion Engineering or Babcock & Wilcox)
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	220 (war)

General Notes

Originally rated as Destroyer Escorts (DE). The original 3—21 inch torpedo tubes were removed.

Class Notes

Completion of *Vandivier* and *Wagner* of this class was suspended in Aug. 1946; but under the 1954 fiscal year conversion program these two ships were completed as radar picket escort vessels (DER) at Boston Naval Shipyard (see previous page).

Anti-Submarine Notes

Alvin C. Cockrell has two hedgehogs and is classified as DE/ASW.

Two ships marked A/S, *Lewis* and *Tweedy*, were converted to anti-submarine escorts and classified as DE (A/S).

Photograph Notes

Photographs of *Maurice J. Manuel* (with mainmast) and *Rizzi* in the 1957-58 edition. Photograph of *Raymond* in the 1958-59 edition.

Transfer Notes

Formoe, D E 509, and *McCoy Reynolds*, D E 440, were officially transferred to Portugal on 7 Feb. 1957.

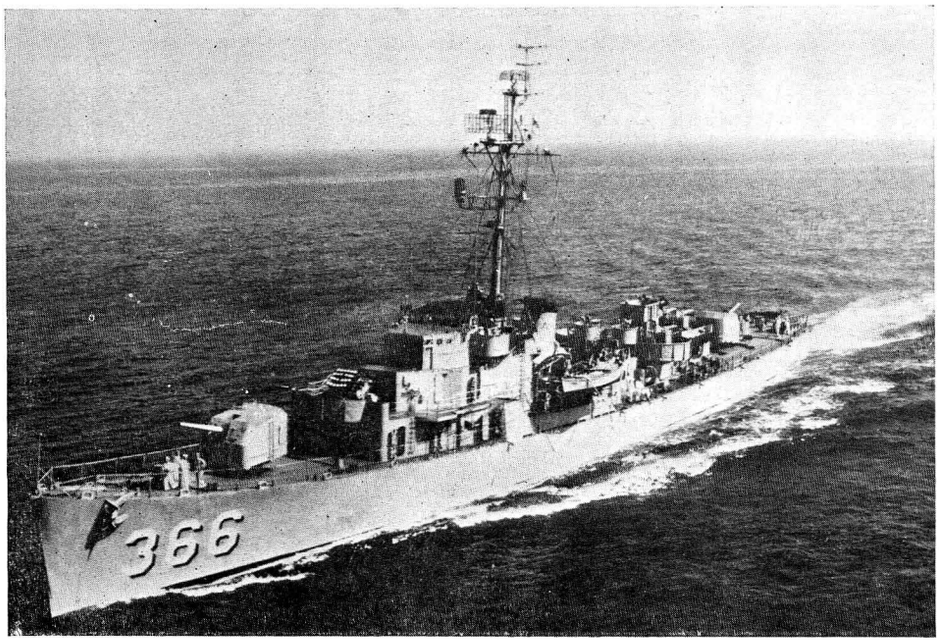
Building Notes

For launching and completion dates of all the ships of this class see table on following page.

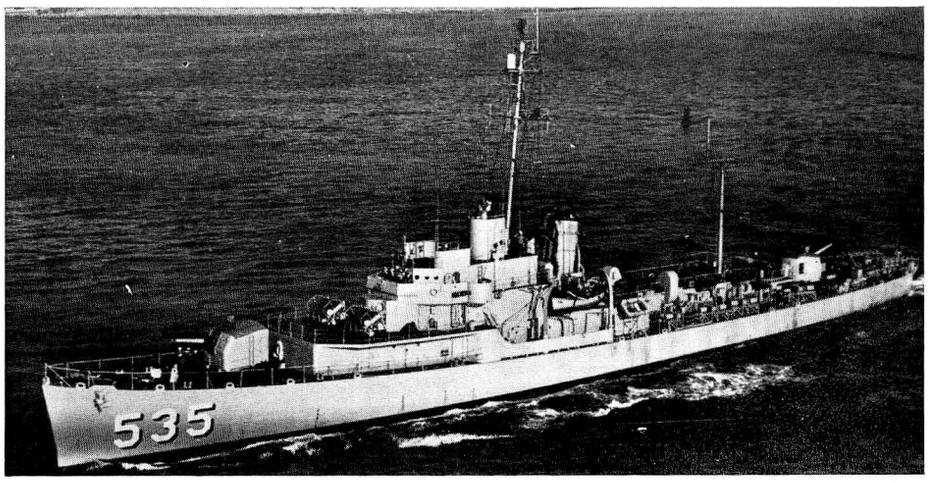
Disposals

Oswald A. Powers, DE 542, and *Sheehan*, DE 541, have been scrapped.

Second World War losses: *Eversole*, *Oberrender*, *Samuel B. Roberts*, and *Shelton*.



ALVIN C. COCKRELL (ASW) 2 hedgehogs — 1959, *U.S. Navy, Official*



LEWIS (A/S) — 1959, *Mariners Museum, Newport News*



TWEEDY (A/S) — 1957, *U.S. Navy, Official*

Destroyer Escorts—*continued*

75 " John C. Butler " Class—*continued*

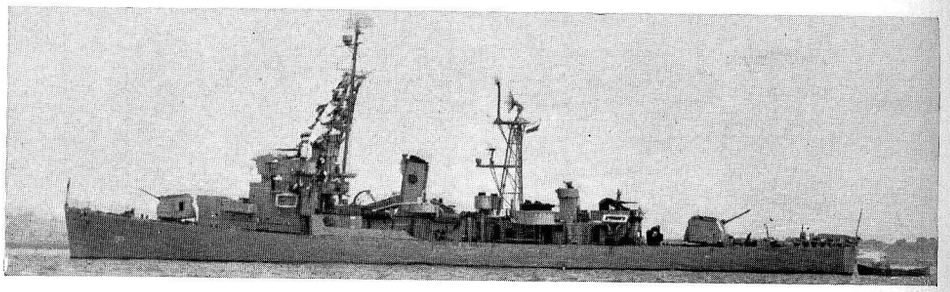
Name	Launched	Completed
Abercrombie	14 Jan. 1944	1 May 1944
Albert T. Harris	16 Apr. 1944	29 Nov. 1944
Alvin C. Cockrell	8 Aug. 1944	7 Oct. 1944
Bivin	7 Dec 1943	31 Oct. 1944
Cecil J. Doyle	1 July 1944	16 Oct. 1944
Charles E. Brannon	23 Apr. 1944	1 Nov. 1944
Chester T. O'Brien	29 Feb. 1944	3 July 1944
Conklin	13 Feb. 1944	21 Apr. 1944
Corbesier	13 Feb. 1944	31 Mar. 1944
Cross	4 July 1944	8 Jan. 1945
Dennis	4 Dec. 1943	20 Mar. 1944
Douglas A. Munro	8 Mar. 1944	11 July 1945
Doyle C. Barnes	4 Mar. 1944	13 July 1944
Dufilho	9 Mar. 1944	21 July 1944
Edmonds	17 Dec. 1943	3 Apr. 1944
Edward H. Allen	17 Oct. 1943	16 Dec. 1943
Edwin A. Howard	25 Jan. 1944	25 May 1944
French	17 June 1944	9 Oct. 1944
Gentry	15 Feb. 1944	14 June 1944
George E. Davis	8 Apr. 1944	11 Aug. 1944
Gilligan	22 Feb. 1944	12 May 1944
Goss	19 Mar. 1944	26 Aug. 1944
Grady	2 Apr. 1944	11 Sep. 1944
Haas	20 Mar. 1944	2 Aug. 1944
Hanna	4 July 1944	27 Jan. 1945
Howard F. Clark	8 Nov. 1943	25 May 1944
Heyliger	6 Aug. 1944	24 Mar. 1945
Jaccard	18 Mar. 1944	26 July 1944
Jack Miller	10 Jan. 1944	13 Apr. 1944
Jesse Rutherford	29 Jan. 1944	31 May 1944
John C. Butler	11 Dec. 1943	31 Mar. 1944
John L. Williamson	29 Aug. 1944	31 Oct. 1944
Johnnie Hutchins	2 May 1944	28 Aug. 1944
Joseph E. Connolly	6 Aug. 1944	28 Feb. 1945
Kendall C. Campbell	19 Mar. 1944	31 July 1944
Kenneth M. Willett	7 May 1944	19 July 1944
Key	12 Feb. 1944	5 June 1944
La Prade	31 Dec. 1943	20 Apr. 1944
Lawrence C. Taylor	29 Jan. 1944	13 May 1944
Le Ray Wilson	28 Jan. 1944	10 May 1944
Leland E. Thomas	28 Feb. 1944	19 June 1944
Lewis	7 Dec. 1943	5 Sep. 1944
Lloyd E. Acree	21 Mar. 1944	1 Aug. 1944
Mack	11 Apr. 1944	16 Aug. 1944
Maurice J. Manuel	19 Feb. 1944	30 June 1944
Melvin R. Nawman	7 Feb. 1944	16 May 1944
McGinty	5 Aug. 1944	25 Sep. 1944
Naifeh	29 Feb. 1944	4 July 1944
O'Flaherty	14 Dec. 1943	8 Apr. 1944
Oliver Mitchell	8 Feb. 1944	14 June 1944
Osberg	7 Dec. 1943	17 Dec. 1945
Pratt	1 June 1944	18 Sep. 1944
Presley	19 Aug. 1944	7 Nov. 1944
Raymond	8 Jan. 1944	15 Apr. 1944
Richard M. Rowell	17 Nov. 1943	9 Mar. 1944
Richard S. Bull	16 Nov. 1943	26 Feb. 1945
Richard W. Suesens	11 Jan. 1944	26 Apr. 1944
Rizzi	7 Dec. 1943	30 June 1944
Robert Brazier	22 Jan. 1944	18 May 1944
Robert F. Keller	11 Feb. 1944	17 June 1944
Rolf	23 May 1944	7 Sep. 1944
Rombach	6 June 1944	20 Sep. 1944
Silverstein	8 Nov. 1943	14 July 1944
Stafford	11 Jan. 1944	19 Apr. 1944
Straus	30 Dec. 1943	6 Apr. 1944
Tabberer	18 Feb. 1944	23 May 1944
Thaddeus Parker	26 Aug. 1944	25 Oct. 1944
Traw	14 Feb. 1944	20 June 1944
Tweedy	7 Oct. 1943	12 Feb. 1944
Ulvert M. Moore	7 Mar. 1944	18 July 1944
Walter C. Wann	19 Jan. 1944	2 May 1944
Walton	20 May 1944	4 Sep. 1944
William Seiverling	7 Mar. 1944	1 June 1944
Williams	22 Aug. 1944	11 Nov. 1944
Woodson	29 Apr. 1944	24 Aug. 1944

Rated as
Escort Ships (DE, ex-DER)

7 Converted " Buckley " Class

DE
77 ALEXANDER J. LUKE
151 BUCKLEY
157 FOGG
153 REUBEN JAMES
578 ROBERT I. PAYNE
223 SPANGENBURG
213 WILLIAM T. POWELL

Displacement:	1,400 tons *standard* (2,170 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 9½ (*mean*), 14 (*max.*) feet
Guns:	2—5 inch, 38 cal. d.p., 8—40 mm. AA.
A/S weapons:	D.C.T.
Machinery:	General Electric turbines with electric drive. 2 shafts. S.H.P.: 12,000 =24 kts.
Boilers:	2 water tube. Babcock & Wilcox in DE 153 and 223, Combustion Engineering in DE 213, Foster Wheeler in remainder
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	220



WILLIAM T. POWELL — 1952, *Ted Stone*

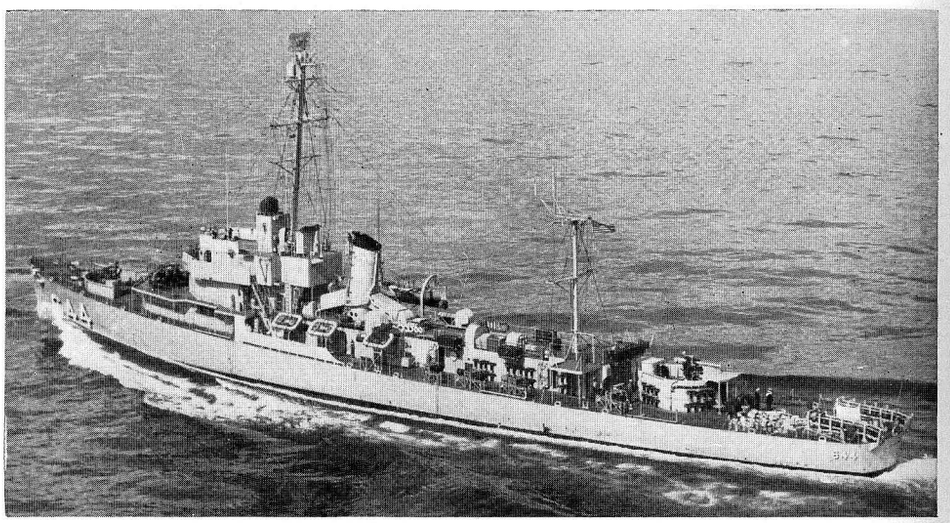
Name	Builders	Launched	Completed
Alexander J. Luke	Bethlehem-Hingham	28 Dec. 1943	19 Feb 1944
Buckley	Bethlehem-Hingham	9 Jan. 1943	30 Apr. 1944
Fogg	Bethlehem-Hingham	20 Mar. 1943	7 July 1943
Reuben James	Norfolk Naval Shipyard	6 Feb. 1943	1 Apr. 1943
Robert I. Payne	Bethlehem-Hingham	30 Dec. 1943	28 Feb. 1944
Spangenburg	Philadelphia Naval Shipyard	3 July 1943	15 Apr. 1944
William T. Powell	Charleston Naval Shipyard	27 Nov 1943	28 Mar 1944

Notes
Built as Destroyer Escorts (DE) with 3—3 inch guns. Subsequently grouped under generic heading of Patrol Vessels with the sub-classification: Escort Vessels. Converted and reclassified as " Escort Vessels, Radar Picket " (DER) in 1949-50, but in Oct. 1954 they were again reclassified as Escort Vessels (DE) and placed in reserve, out of commisison, and on 25 Aug. 1960 they were reclassified as Escort ships (DE).

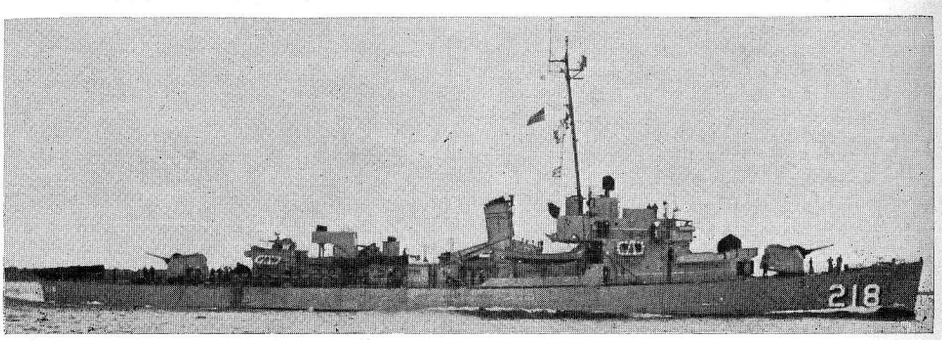
Rated as **Escort Ships** (DE)

50 "Buckley " Class

Name	Launched	Completed
Ahrens	21 Dec. 1943	12 Feb. 1944
Borum	14 Aug. 1943	30 Nov. 1943
Coolbaugh	29 May 1943	15 Oct. 1943
Cronin	5 Jan. 1944	4 May 1944
Currier	14 Oct. 1943	1 Feb. 1944
Damon M. Cummings	18 Apr. 1944	29 June 1944
Darby	29 May 1943	15 Nov. 1943
Durik	9 Oct. 1943	24 Mar. 1944
Earl V. Johnson	12 Jan. 1944	18 Mar. 1944
Eichenberger	22 July 1943	17 Nov. 1943
Fieberling	2 Mar. 1944	11 Apr. 1944
Foreman	1 Aug. 1943	22 Oct. 1943
Foss	10 Apr. 1943	23 July 1943
Fowler	3 July 1943	15 Mar. 1944
Francis M. Robinson	29 May 1943	15 Jan. 1944
Frybarger	25 Jan. 1944	18 May 1944
Gendreau	12 Dec. 1943	17 Mar. 1944
George	16 Feb. 1943	20 Nov. 1943
Gillette	25 Sep. 1943	27 Oct. 1943
Greenwood	21 Aug. 1943	25 Sep 1943
Gunason	17 Oct. 1943	1 Feb 1944
Harmon	25 July 1943	31 Aug 1943
Henry R. Kenyon	30 Oct. 1943	30 Nov 1943
Holton	15 Dec. 1943	1 May 1944
Jack W. Wilke	18 Dec. 1943	7 Mar. 1944
James E. Craig	22 July 1943	1 Nov. 1943
J. Douglas Blackwood	29 May 1943	15 Jan. 1943
Jenks	11 Sep. 1943	19 Jan. 1944
Loeser	11 Sep. 1943	10 Oct. 1943
Lovelace	4 July 1943	7 Nov. 1943
Major	23 Oct. 1943	12 Feb. 1944
Maloy	18 Aug. 1943	13 Dec. 1943
Manning	1 Sep. 1943	1 Oct. 1943
Marsh	29 Jan. 1943	12 Jan. 1944
Neundorf	18 Sep. 1943	18 Oct. 1943
Osmus	4 Nov. 1943	23 Feb. 1944
Otter	23 Oct. 1943	21 Feb. 1944
Paul G. Baker	12 Mar. 1944	25 May 1944
Raby	4 Sep. 1943	7 Dec. 1943
Scott	3 Apr. 1943	20 July 1943
Scroggins	6 Nov. 1943	30 Mar. 1944
Spangler	15 July 1943	31 Oct. 1943
Thomason	24 Aug. 1943	10 Dec. 1943
Vammen	21 May 1944	27 July 1944
Varian	6 Nov. 1943	29 Feb. 1944
Weeden	27 Oct. 1943	19 Feb. 1944
Whitehurst	5 Sep. 1943	19 Nov. 1943
William C. Cole	28 Dec. 1943	12 May 1944
Willmarth	11 Nov. 1943	13 Mar. 1944
Wiseman	6 Nov. 1943	4 Apr. 1944



VAMMEN (A/S) converted, with mainmast — *Added 1957, Ted Stone*



DARBY (note differences in bridge and superstructure) — 1955, *courtesy B. L. Devenish-Meares, Esq*

Destroyer Escorts—*continued*

Rated as **Escort Ships** (DE)

50 " Buckley " Class—*continued*

2 *Bethlehem-Hingham*

DE
575 AHRENS
59 FOSS

5 *Bethlehem, Quincy*

681 GILLETTE
679 GREENWOOD
678 HARMON
683 HENRY R. KENYON
680 LOESER

9 *Bethlehem, S. Francisco*

643 DAMON M. CUMMINGS
640 FIEBERLING
633 FOREMAN
639 GENDREAU
642 PAUL G. BAKER
644 VAMMEN A/S
634 WHITEHURST
641 WILLIAM C. COLE
638 WILLMARTH

6 *Charleston Navy Yard*

202 EICHENBERGER
201 JAMES E. CRAIG
199 MANNING
200 NEUNDORF
210 OTTER
203 THOMASON

8 *Consolidated Steel Corpn., Orange*

790 BORUM
795 GUNASON

DE
800 JACK W WILKE E
796 MAJOR
791 MALOY E
799 SCROGGINS
798 VARIAN
797 WEEDEN

10 *Defoe Co., Bay City, Mich.*

704 CRONIN
700 CURRIER
702 EARL V. JOHNSON
705 FRYBARGER
697 GEORGE
703 HOLTON
699 MARSH
701 OSMUS
698 RABY
696 SPANGLER

3 *Dravo Corpn., Pittsburgh*

666 DURIK
665 JENKS
667 WISEMAN

1 *Norfolk Navy Yard*

198 LOVELACE

6 *Philadelphia Navy Yard*

217 COOLBAUGH
218 DARBY
222 FOWLER
220 FRANCIS M. ROBINSON E
219 J. DOUGLAS BLACKWOOD
214 SCOTT

Displacement:	1,400 tons *standard* (2,170 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅝ × 10⅜ (*mean*) 14 (*max.*) feet
Guns:	3—3inch, 50 cal., 8—40 mm. AA., 4—20 mm. AA. (*Coolbaugh, Darby, J. Douglas Blackwood, Loeser, Raby*, 2—5 inch, 38 cal. d.p., 6 or 10—40 mm. AA.)—see *Gunnery Notes*
A/S weapons:	D.C.T.
Machinery:	General Electric Turbines with electric drive. 2 shafts. S.H.P.: 12,000 =24 kts.
Boilers:	2 water tube (Foster-Wheeler, Babcock & Wilcox, or Combustion Engineering)
Oil fuel:	340 tons
Radius:	5,000 miles at 15 kts.
Complement:	220 (war)

General Notes
46 ships of this class, originally rated as Destroyer Escorts (DE), were transferred under Lend-Lease scheme to Royal Navy in which they served as frigates. Six of these were lost, and the remainder were returned to U.S.A. for scrapping. Fifty more of " Buckley " class were adapted for duty as Fast Transports or for subsidiary purposes. *Foss, Marsh, Wiseman* and *Whitehurst* rigged as power supply ships have two large reels for power cables amidships. *Fechteler* and *Underhill* were lost in the Second World War. *Solar* was destroyed by internal explosion on 30 Apr. 1946.

Gunnery Notes
Ten DEs of this class have 5-inch guns (see photo).

Engineering Notes
All DEs have alternate engine and boiler rooms. What looks like a central uptake is really only a cylindrical support for the dual stack trunk.

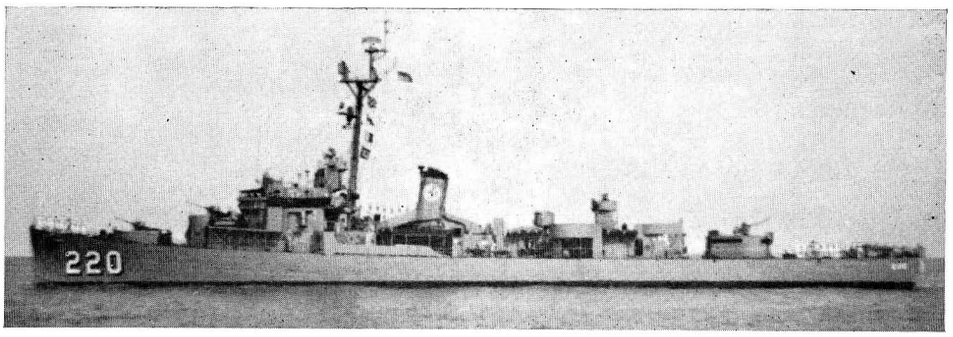
Class Notes
Cronin, Frybarger and *Raby* were redesignated DEC (escort vessels, control) on reassignment to amphibious forces, but *Cronin* and *Raby* were decommissioned to Reserve Fleet in June 1953, and *Frybarger* was placed in the Reserve Fleet in commission in June 1954; and all three of these DECs were reclassified as DEs on 27 Dec. 1957.

Experimental Notes
A/S *Vammen* converted to DE (A/S), i.e., for anti-submarine warfare.
E *Francis M. Robinson, Jack W. Wilke* and *Maloy* are now EDEs (experimental destroyer escorts).

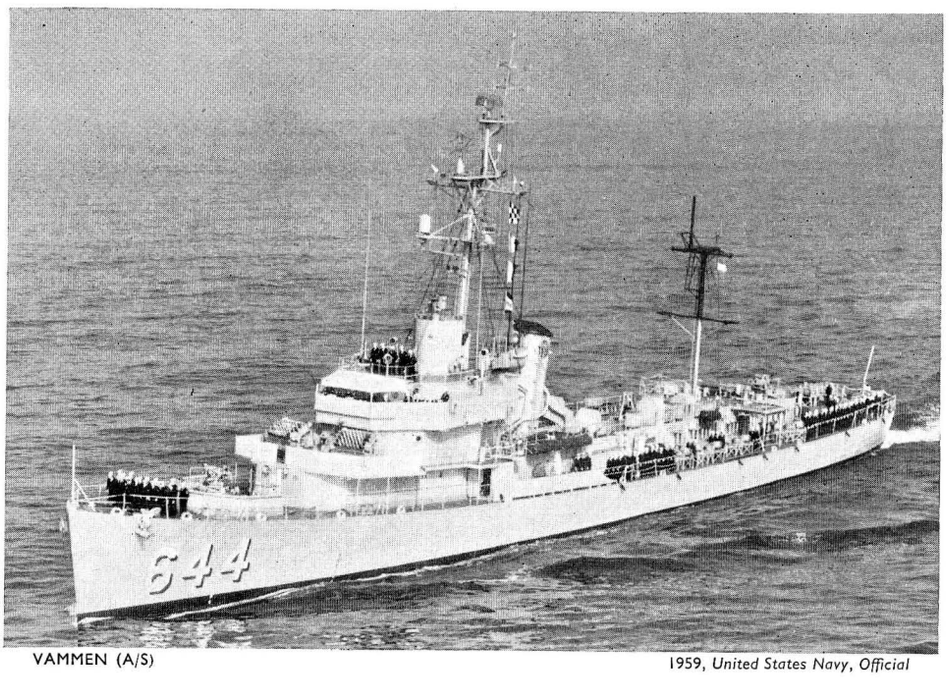
Conversion Notes
Seven more units of the " Buckley " class were converted to Radar Pickets (see previous page) but subsequently reverted to DE status.

Building Notes
For launching and completion dates of all the ships of this class see table on preceding page.

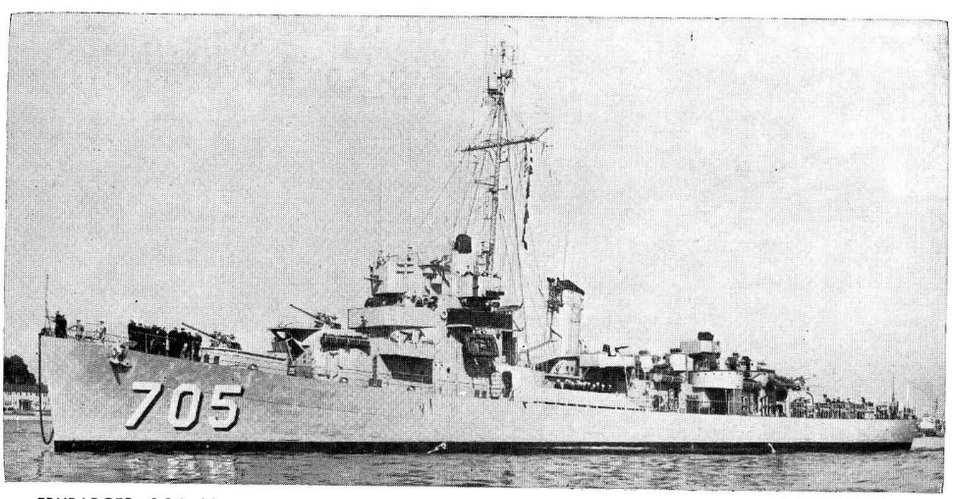
Photograph Notes
Transom view of *Maloy*, showing experimental gear on stern, in the 1957-58 edition. Starboard bow view of *Loeser* in the 1958-59 edition.



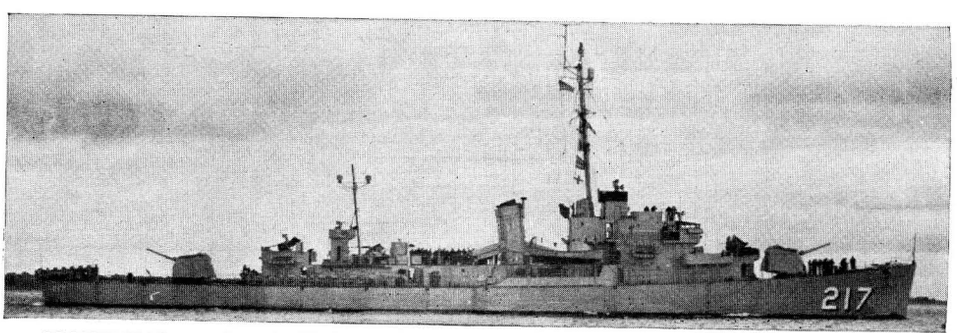
FRANCIS M. ROBINSON (3-inch gunned type) 1960, *courtesy Mr. James Flynn*



VAMMEN (A/S) 1959, *United States Navy, Official*



FRYBARGER (3-3 inch) *Added 1957, Ted Stone*



COOLBAUGH (note mainmast) 5-inch gunned type 1955, *courtesy B. L. Devenish-Mears, Esq.*

Destroyer Escorts—*continued*

Rated as **Escort Ships** (DE)

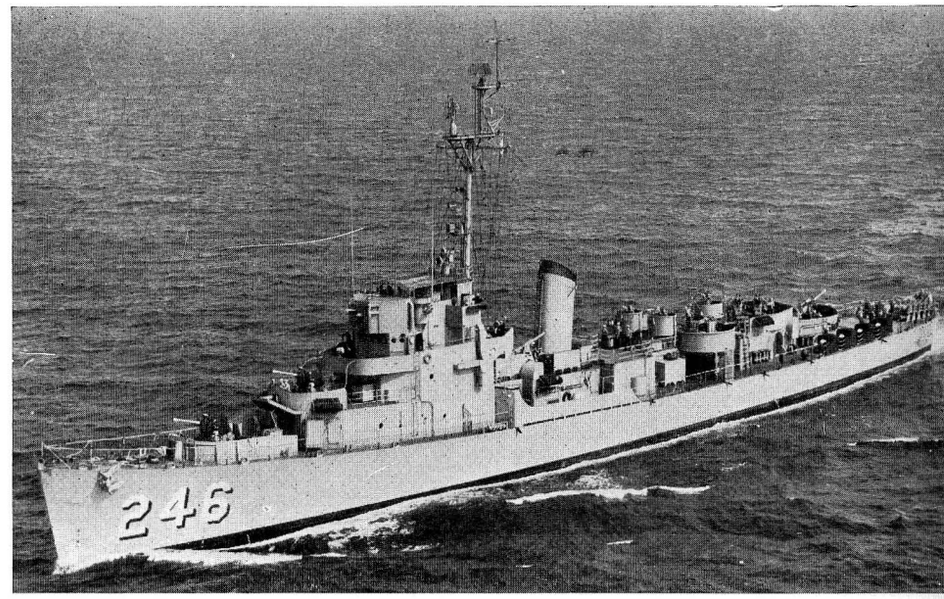
47 "Edsall" Class

21 *Brown S. B. Co., Houston*

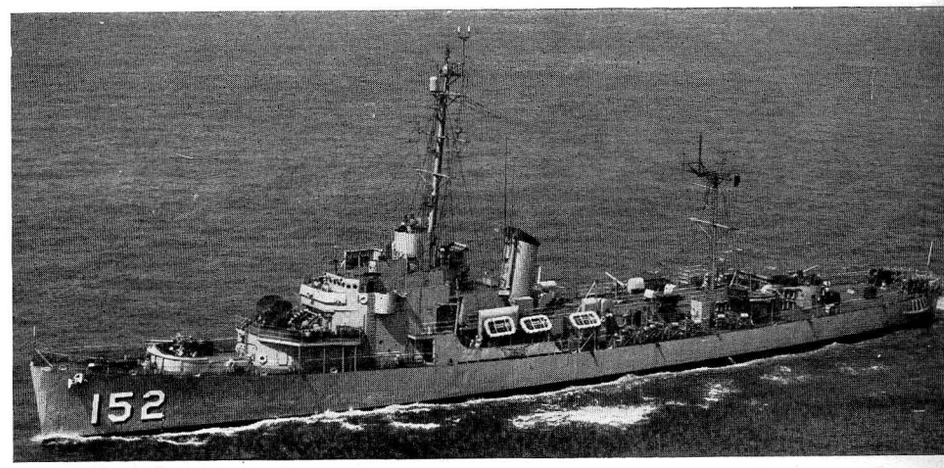
DE
398 COCKRILL
252 HOWARD D. CROW
250 HURST
396 JANSSEN
243 J. RICHARD WARD
241 KEITH
249 MARCHAND
392 MERRILL
240 MOORE
253 PETTIT
385 RICHEY
254 RICKETTS
245 SLOAT
246 SNOWDEN
247 STANTON
238 STEWART
399 STOCKDALE
248 SWASEY
394 SWENNING
242 TOMICH
395 WILLIS

26 *Consolidated Steel Corpn.*
148 BROUGH

DE
149 CHATELAIN
337 DALE W. PETERSON
335 DANIEL
138 DOUGLAS J. HOWARD
129 EDSALL
139 FARQUHAR
135 FLAHERTY
144 FROST
131 HAMMAN (*ex-Langley*)
137 HERBERT C. JONES
141 HILL
145 HUSE
146 INCH
130 JACOB JONES
140 J. R. Y. BLAKELEY
338 MARTIN H. RAY
320 MENGES
321 MOSLEY
150 NEUNZER
330 O'REILLY
152 PETERSON A/S
151 POOLE
134 POPE
323 PRIDE
132 ROBERT E. PEARY



SNOWDEN — 1956, *Skyfotos*



PETERSON (A/S) — 1954, *Skyfotos*

Displacement:	1,200 tons *standard* (1,850 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅜ × 8 7/12 (*mean*), 11 (*max.*) feet
Guns:	3—3 inch, 50 cal., 8—40 mm. AA. 4—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	4 Fairbanks-Morse diesels. 2 shafts, B.H.P.: 6,000=21 kts.
Oil fuel:	279 tons
Radius:	11,500 miles at 11kts.
Complement:	220 (war)

Name	*Launched*	*Completed*
Brough	10 Apr. 1943	18 Sep. 1943
Chatelain	21 Aug. 1943	22 Sep. 1943
Cockrill	29 Oct. 1943	24 Dec. 1943
Dale W. Petersen	22 Dec. 1943	17 Feb. 1943
Daniel	16 Nov. 1943	24 Jan. 1944
Douglas L. Howard	25 Jan. 1943	29 July 1943
Edsall	1 Nov 1942	10 Apr. 1943
Farquhar	13 Feb. 1943	5 Aug. 1943
Flaherty	17 Jan. 1943	26 June 1943
Frost	21 Mar. 1943	30 Aug. 1943
Hamman	13 Dec. 1942	17 May 1943
Herbert C. Jones	19 Jan. 1943	21 July 1943
Hill	28 Feb. 1943	16 Aug. 1943
Howard D. Crow	26 Apr. 1943	27 Sep. 1943
Hurst	14 Apr. 1943	30 Aug. 1943
Huse	23 Mar. 1943	30 Aug. 1943
Inch	4 Apr. 1943	8 Sep. 1943
Jacob Jones	29 Nov. 1942	29 Apr. 1943
Janssen	10 Oct. 1943	18 Dec. 1943
J. Richard Ward	6 Jan. 1943	5 July 1943
J. R. Y. Blakeley	7 Mar. 1943	16 Aug. 1943
Keith	21 Dec. 1942	19 July 1943
Marchand	20 Mar. 1943	8 Sep. 1943
Martin H. Ray	29 Dec. 1943	28 Feb. 1944
Menges	15 June 1943	26 Oct 1943
Merrill	29 Aug. 1943	27 Nov. 1943
Moore	21 Dec. 1942	1 July 1943
Mosley	26 June 1943	30 Oct. 1943
Neunzer	27 Apr. 1943	27 Sep 1943
O'Reilly	2 Sep. 1943	28 Dec. 1943
Peterson	15 May 1943	29 Sep. 1943
Pettit	28 Apr. 1943	23 Sep. 1943
Poole	8 May 1943	29 Sep. 1943
Pope	12 Jan. 1943	25 June 1943
Pride	3 July 1943	13 Nov. 1943
Richey	20 June 1943	30 Oct. 1943
Ricketts	10 May 1943	5 Oct. 1943
Robert E. Peary	3 Jan. 1943	31 May 1943
Sloat	21 Jan. 1943	16 Aug. 1943
Snowden	19 Feb. 1943	23 Aug. 1943
Stanton	28 Feb. 1943	7 Aug. 1943
Stewart	22 Nov. 1942	31 May 1943
Stockdale	30 Oct. 1943	31 Dec. 1943
Swasey	18 Mar. 1943	31 Aug. 1943
Swenning	13 Sep. 1943	1 Dec. 1943
Tomich	28 Dec. 1942	26 July 1943
Willis	14 Sep. 1943	10 Dec. 1943

General Notes

The original 3—21 inch torpedo tubes were removed. *Fessenden, Harveson, Joyce, Kirkpatrick, Otterstetter* and *Strickland* of this class were converted to DER (Radar Picket Escort Vessels) in 1951, *Haverfield, Pillsbury, Savage*, and *Wilhoite* were converted to DER in 1954-55, *Calcaterra, Chambers, Falgout, Koiner, Lowe* and *Rhodes* were converted to DER in 1955-56, *Brister, Camp, Durant, Finch, Forster, Hissem, Kretchmer, Lansing, Price, Roy O'Hale, Sillstrom* and *Vance* converted to DER under 1957 conversion program. Six others converted to DER under Fiscal 1957 conversion program (see next page). *Falgout, Finch, Forster, Koiner, Lowe* and *Newall*, transferred to United States Coast Guard 1951, *Chambers, Durant, Lansing, Ramsden, Richey, Vance*, 1952, were returned to U.S. Navy 1954. War losses: *Fiske, Frederick C. Davis, Holder, Leopold.*

Anti-Submarine Notes

A/S *Peterson* has been converted to DE(A/S), i.e. for specialised anti-submarine warfare, i.e. limited conversion with additional sonar and depth charge equipment added (recommissioned 1 May 1952).

Conversion Notes

The following vessels were redesignated from DE to DER and converted under the Fiscal Year 1957 Shipbuilding and Conversion Program:

Blair DE 147 to DER 147, *Mills* DE 383 to DER 383, *Newell* DE 322 to DER 322, *Ramsden* DE 382 to DER, 382, *Sturtevant* DE 239 to DER 239, *Thomas J. Gary* DE 326 to DER 326. Conversion carried out during 1956-58.

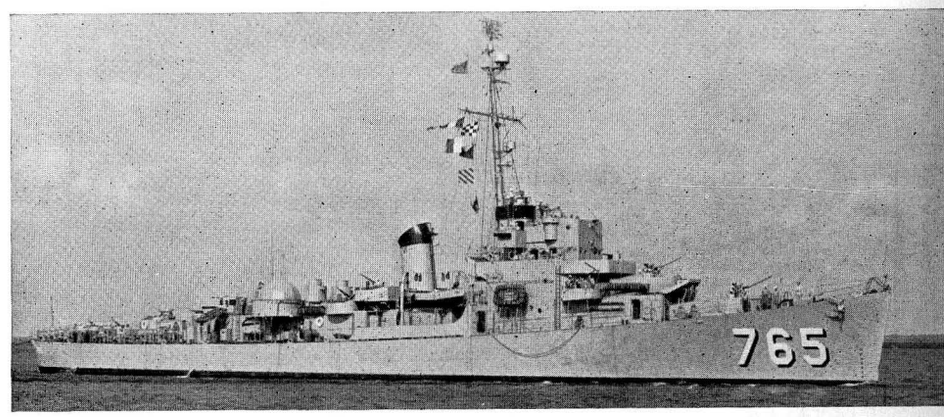
Experimental Notes

The conversion program for 1955 provided for replacing the diesel engines in the escort vessel *Mills* (DE 383) with two British RM 60 gas turbines designed to reduce plant weight by approximately 15 per cent. while delivering 67 per cent. more power; but this project was abandoned and *Mills* was converted to DER (Radar Picket).

Rated as **Escort Ships** (DE)

22 "Bostwick" Class

Name	*Launched*	*Completed*
Acree	9 May 1943	19 July 1943
Booth	21 June 1943	19 Sep. 1943
Carroll	21 June 1943	24 Oct. 1943
Coffman	28 Nov. 1943	27 Dec. 1943
Cooner	25 July 1943	21 Aug. 1943
Earl K. Olsen	13 Feb. 1944	10 Apr. 1944
Hilbert	18 July 1943	4 Feb. 1944
Kyne	15 Aug. 1943	4 Apr. 1944
Lamons	1 Aug. 1943	29 Feb. 1944
Levy	28 Mar. 1943	13 May 1943
McClelland	28 Nov. 1944	19 Sep. 1944
McConnell	28 Mar. 1943	28 May 1943
Micka	22 Aug. 1943	23 Sep. 1943
Neal A. Scott	4 June 1944	31 July 1944
Osterhaus	18 Apr. 1943	12 June 1943
Oswald	25 Apr. 1944	12 June 1944
Parks	18 Apr. 1943	22 June 1944
Roberts	14 Nov. 1943	2 Sep. 1943
Snyder	29 Aug. 1943	5 May 1944
Straub	18 Sep. 1943	25 Oct. 1943
Tills	3 Oct. 1943	8 Aug. 1944
Trumpeter	18 Sep. 1943	25 Oct. 1943



EARL K. OLSEN — 1953, *U.S. Navy, Official*

Destroyer Escorts—*continued*

"Bostwick" Class—*continued*

12 *Federal S. B. & D.D. Co., Port Newark*	3 *Tampa S.B. Co.*
DE	**DE**
167 ACREE	**765 EARL K. OLSEN**
170 BOOTH	**769 NEAL A. SCOTT**
171 CARROLL	**767 OSWALD**
191 COFFMAN	
172 COONER	*7 Western Pipe & Steel Co.*
162 LEVY	**742 HILBERT**
163 McCONNELL	**743 LAMONS**
176 MICKA	**744 KYNE**
164 OSTERHAUS	**750 McCLELLAND**
165 PARKS	**749 ROBERTS**
181 STRAUB	**745 SNYDER**
180 TRUMPETER	**748 TILLS**

Building Notes

For launching and completion dates of all the ships of this class see table at the bottom of preceding page.

Displacement:	1,240 tons *standard* (1,900 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅝ × 10⅝ (*mean*), 14 (*max.*) feet
Guns:	3—3 inch, 50 cal. d.p., 2—40 mm AA., 4—20 mm. AA.
Tubes:	3—21 inch, in triple mount (some have had torpedo tubes removed)
A/S weapons:	D.C.T.
Machinery:	General Motors diesels with electric drive. 2 shafts. B.H.P.: 6,000= 21 kts. (20 kts. sea speed)
Oil Fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	220

General Notes

The following vessels (DE) were formerly on the list of ships to be disposed of. They were removed from that list in 1952 and put back in the reserve Fleet: *Acree* (167), *Amick* (168), *Atherton* (169), *Booth* (170), *Carroll* (171), *Coffman* (1911) *Cooner* (172), *Hilbert* (742), *Lamons* (743), *Levy* (162), *McConnel*, (163), *Micka* (176), *Neal A. Scott* (769), *Osterhaus* (164), *Oswald* (767), *Parks* (165), *Straub* (181), and *Trumpeter* (180).

Transfer Notes

Eight ships of this class, originally rated as Destroyer Escorts (DE,) were transferred to Brazilian Navy, four to Chinese Navy, and 14 to French Navy. *Ebert* (768), *Eldridge* (173), *Garfield Thomas* (193), and *Slater* (766) transferred to Greece 1951. *Burrows* (195), *Eisner* (192), *Gustafson* (182), *O'Neill* (188), *Rinehart* (196) and *Stern* (187) were transferred to the Netherlands in 1950-51. *Gandy* (764), *Thornhill* (195). and *Wesson* (184) transferred to Italy 1951. *Bangust* (739), *Waterman* (740), and *Weaver* (741) transferred to Peru in 1952, and *Baron* (166) and *Bronstein* (189) transferred to Uruguay 1951, *Amick* and *Atherton* transferred to Japan 1955. *Muir* (770) and *Sutton* (771) transferred to South Korean Republic 1956. *Hemminger*, DE 746, was transferred to Thailand in July 1959.

Rated as

Escort Ships, Radar Picket (DER)

34 Converted "Edsall" Class

16 *Brown S.B. Co., Houston*	18 *Consolidated Steel Corporation*
DER	**DER**
390 CALCATERRA	**147 BLAIR**
251 CAMP	**327 BRISTER**
391 CHAMBERS	**324 FALGOUT**
389 DURANT	**142 FESSENDEN**
393 HAVERFIELD	**328 FINCH**
400 HISSEM	**334 FORSTER**
388 LANSING	**316 HARVESON**
383 MILLS	**317 JOYCE**
244 OTTERSTETTER	**318 KIRKPATRICK**
382 RAMSDEN	**331 KOINER**
384 RHODES	**329 KRETCHMER**
386 SAVAGE	**325 LOWE**
255 SELLSTROM	**322 NEWELL**
239 STURTEVANT	**133 PILLSBURY**
387 VANCE	**332 PRICE**
397 WILHOITE	**336 ROY O'HALE**
	333 STRICKLAND
	326 THOMAS J. GARY

Displacement:	1,590 tons *standard* (1,850 tons *full load*)
Dimensions:	306 (*o.a.*) × 36⅝ × 11 (*max.*) feet
Guns:	2—3 inch, 50 cal.; 6—20 mm. AA. (3 twin mounts)
A/S weapons:	1 trainable Hedgehog mounting, 2 torpedo rack side launchers, 1 D.C rack
Machinery:	4 Fairbanks-Morse Diesels. 2 shafts. B.H.P.: 6,000=21 kts.
Oil fuel:	300 tons
Radius:	11,500 miles at 11 kts.
Complement:	150

General Notes

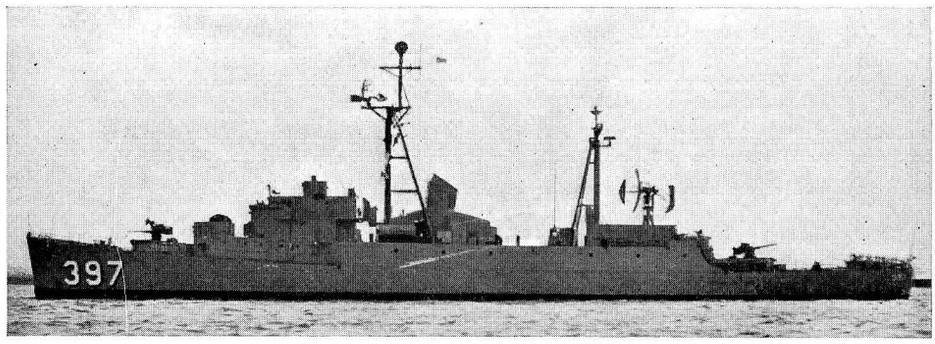
Originally rated as Destroyer Escorts (DE) but now grouped under the generic heading of Patrol Ships with the specific designation of Radar Picket Escort Ships.

Building dates below.

Conversion Notes

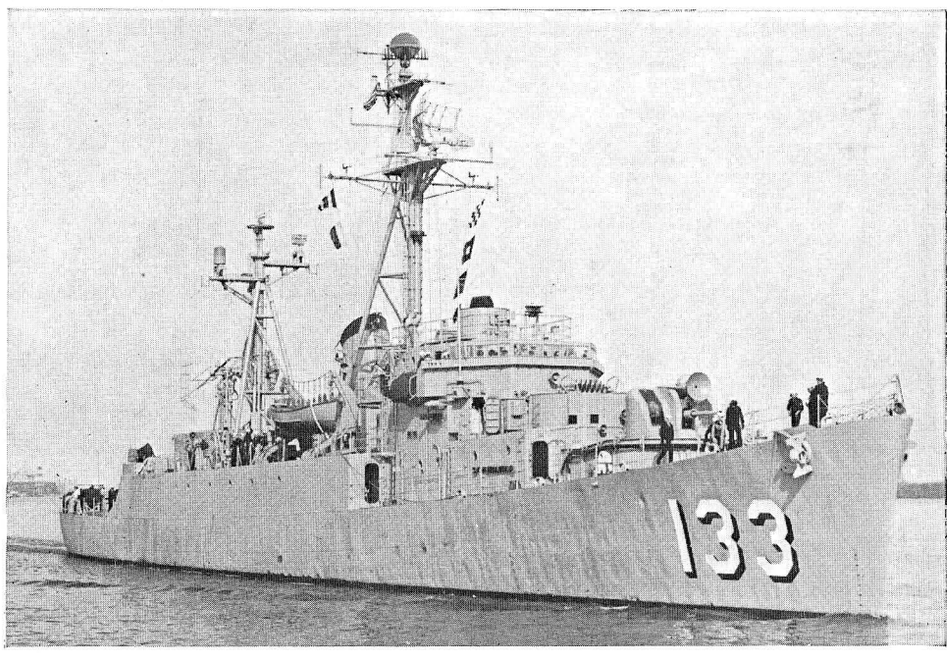
Fessenden, *Harveston*, *Joyce*, *Kirkpatrick*, *Otterstetter* and *Strickland* were converted to DER 1951, *Haverfield*, *Pilsbury*, *Savage* and *Wilhoite* in 1954-55, *Calcaterra*, *Chambers*, *Falgout*, *Koiner*, *Lowe*, *Rhodes*, in 1955-56, *Bristler*, *Camp*, *Durant*, *Finch*, *Forster*, *Hissem*, *Kretchmer*, *Lansing*, *Price*, *Roy O'Hale*, *Sellstrom*, *Vance* in 1956-57, *Blair*, *Mills*, *Newell*, *Ramsden*, *Sturtevant* and *Thomas J. Gary* in 1956-58. New equipment includes air search, height finder and surface search radar, and they are rigged to detect enemy action at sea or in the air in any form. Conversion includes improvement in habitability by installing the mess compartment on the main deck (see photos), and most of the new superstructure is of aluminium to reduce top weight. *Harveson* underwent further conversion in 1957. *Blair*, DER 147, was converted from DE 147 under the 1957 program. Conversion work commenced on 2 Jan. 1957 and was completed on 2 Jan. 1958.

Name	*Launched*	*Completed*
Blair	6 Apr. 1943	13 Sep. 1943
Brister	24 Aug. 1943	30 Nov. 1943
Calcaterra	16 Aug. 1943	17 Nov. 1943
Camp	16 Apr. 1943	16 Sep. 1943
Chambers	17 Aug. 1943	22 Nov. 1943
Durant	3 Aug. 1943	16 Nov. 1943
Falgout	24 July 1943	15 Nov. 1943
Fessenden	9 Mar. 1943	25 Aug. 1943
Finch	28 Aug. 1943	13 Dec. 1943
Forster	13 Nov. 1943	25 Jan. 1944
Harveson	22 May 1943	12 Oct. 1943
Haverfield	30 Aug. 1943	29 Nov. 1943
Hissem	26 Dec. 1943	13 Jan. 1944
Joyce	26 May 1943	30 Sep. 1943
Kirkpatrick	5 June 1943	23 Oct. 1943
Koiner	5 Sep. 1943	27 Dec. 1943
Kretchmer	31 Aug. 1943	13 Dec. 1943
Lansing	3 Aug. 1943	10 Nov. 1943
Lowe	28 July 1943	22 Nov. 1943
Mills	26 May 1943	12 Oct. 1943
Newell	29 June 1943	30 Oct. 1943
Otterstetter	19 Jan. 1943	6 Aug. 1943
Pillsbury	10 Jan. 1943	7 June 1943
Price	30 Oct. 1943	12 Jan. 1944
Ramsden	24 May 1943	19 Oct. 1943
Rhodes	29 June 1943	25 Oct. 1943
Roy O'Hale	20 Nov. 1943	3 Feb. 1944
Savage	15 July 1943	29 Oct. 1943
Sellstrom	12 May 1943	12 Oct. 1943
Strickland	2 Nov. 1943	10 Jan. 1944
Sturtevant	3 Dec. 1942	16 June 1943
Thomas J. Gary	21 Aug. 1943	27 Nov. 1943
Vance	16 July 1943	1 Nov. 1943
Wilhoite	Oct. 1943	16 Dec. 1943



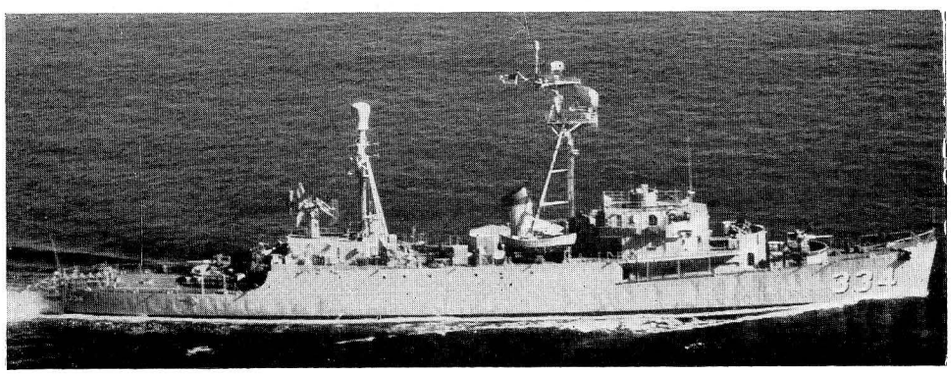
WILHOITE

Added 1958, *U.S. Navy, Official*



PILLSBURY

1957, *U.S. Navy, Official*



FORSTER

1957, *U.S. Navy, Official*

Gunnery Notes

The six 20 mm. anti-aircraft guns formerly mounted have been removed.

A/S Weapon Notes

The armament installed for anti-submarine warfare includes a hedgehog and side launching racks for torpedoes.

Torpedo Notes

The three 21 inch torpedo tubes originally carried were removed.

Photograph Notes

Port bow view of *Harveson*, before recent conversion, and starboard broadside view of *Koiner*, as converted to radar picket, in the 1957-58 (Diamond Jubilee) edition.

FAST TRANSPORTS (Modified Destroyer Escorts)

Rated as
High Speed Transports (APD)
66 Converted Destroyer Escorts

APD	(Ex-*DE*)	
97	281	**ARTHUR L. BRISTOL** (19 Feb. 1940)
132	716	**BALDUCK** (27 Oct. 1944)
57	161	**BARBER** (20 May 1943)
73	672	**BASSETT** (15 Jan. 1944)
127	711	**BEGOR** (25 May 1944)
109	599	**BELET** (3 Mar. 1944)
119	722	**BEVERLY W. REID** (4 Mar. 1944)
48	69	**BLESSMAN** (19 June 1943)
40	637	**BOWERS** (31 Oct. 1943)
78	693	**BULL** (25 March 1943)
79	694	**BUNCH** (29 May 1943)
133	717	**BURDO** (25 Nov. 1944)
65	215	**BURKE** (3 April 1943)
137	53	**CHARLES LAWRENCE** (16 Feb. 1943)
62	208	**COFER** (6 Sep. 1943)
130	714	**COOK** (26 Aug. 1944)
38	54	**DANIEL T. GRIFFIN** (25 Feb. 1943)
123	690	**DIACHENKO** (15 Aug. 1944)
129	713	**DONALD W. WOLF** (22 July 1944)
118	721	**DON O. WOODS** (19 Feb. 1944)
113	603	**EARHART** (12 May 1945)
107	597	**EARLE B. HALL** (1 Mar. 1944)
66	216	**ENRIGHT** (29 May 1943)
16	606	**FRANCOVICH** (5 June 1945)
42	60	**GANTNER** (17 Apr. 1943)
143	62	**GEORGE W. INGRAM** (8 May, 1943)
26	710	**GOSSELIN** (4 May 1944)
108	598	**HARRY L. CORL** (1 Mar. 1944)
80	212	**HAYTER** (11 Nov. 1943)
86	794	**HOLLIS** (11 Sep. 1943)
51	155	**HOPPING** (10 Mar. 1943)
24	691	**HORACE A. BASS** (12 Sep. 1944)
72	671	**JACK C. ROBINSON** (8 Jan. 1944)
74	673	**JOHN P. GRAY** (18 Mar. 1944)
53	211	**JOSEPH C. HUBBARD** (11 Nov. 1943)
49	70	**JOSEPH E. CAMPBELL** (26 June 1943)
117	674	**JOSEPH M. AUMAN** (5 Feb. 1944)
110	600	**JULIUS A. RAVEN** (3 Mar. 1944)
61	207	**KEPHART** (6 Sep. 1943)
91	232	**KINZER** (9 Dec. 1943)
90	229	**KIRWIN** (16 June 1944)
120	687	**KLINE** (27 June 1944)
101	591	**KNUDSON** (5 Feb. 1944)
55	159	**LANING** (4 July 1943)
45	65	**LEE FOX** (29 May 1943)
60	206	**LIDDLE** (9 Aug. 1943)
63	209	**LLOYD** (23 Oct. 1943)
56	160	**LOY** (4 July 1943)
59	205	**NEWMAN** (9 Aug. 1943)
71	670	**ODUM** (19 Jan. 1944)
70	669	**PAVLIC** (18 Dec. 1943)
121	688	**RAYMOND W. HERNDON** (15 July '44)
102	592	**REDNOUR** (12 Feb. 1944)
92	233	**REGISTER** (20 Jan. 1944)
100	590	**RINGNESS** (5 Feb. 1944)
89	228	**RUCHAMKIM** (15 June 1944)
76	676	**SCHMITT** (29 May 1943)
122	689	**SCRIBNER** (1 Aug. 1944)
103	593	**TOLLBERG** (12 Feb. 1944)
98	282	**TRUXTON** (9 Mar. 1944)
111	601	**WALSH** (28 Apr. 1945)
106	596	**WALTER B. COBB** (23 Feb. 1944)
131	715	**WALTER X. YOUNG** (30 Sep. 1944)
135	719	**WEISS** (17 Feb. 1945)
95	236	**WILLIAM M. HOBBY** (11 Feb. 1944)
69	668	**YOKES** (27 Nov. 1943)

Displacement:	1,400 tons *standard*, 1,650 tons *trials* (2,130 tons *full load*)
Dimensions:	300 (*w.l.*), 306 (*o.a.*) × 37 × 12⅔ (*max.*) feet
Guns:	1—5 inch, 38 cal. d.p., 6—40 mm AA.
Machinery:	General Electric geared turbines with electric drive. 2 shafts. S.H.P.: 12,000=23·6 kts. (trials)
Boilers:	2 Express
Oil fuel:	350 tons
Radius:	5,500 miles at 15 kts.
Complement:	204 + 162 troops

General Notes

Former destroyer escorts converted and officially rated as High-Speed Transports. Carry four LCVP (Landing Craft Vehicle-Personnel). Seven proposed conversions abandoned. APD 82, *Borum* (DE 790) and APD 83, *Maloy* (DE 791) not converted. *Durik*, DE 666, *Jenks*, DE 665, and *Scott*, DE 214, were also originally assigned as APD (68, 67 and 64 respectively). War loss: *Bates* (APD 47, ex-DE 68). Three, APD 54, *Chase* (DE 158), APD 41, *England* (DE 635), and APD 58, *Witter* (DE 636), scrapped.

Appearance Notes

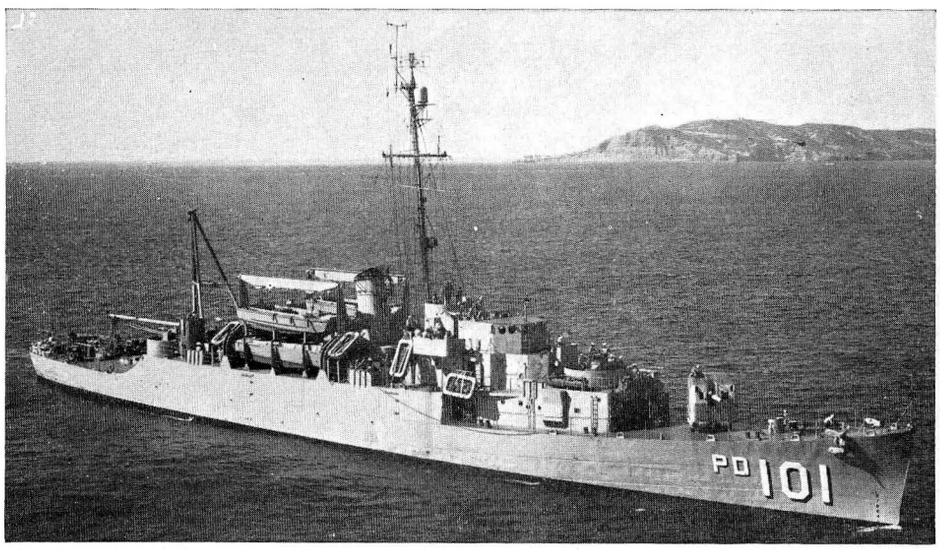
Those converted from "Buckley" type retained high bridge, but were given a 5-inch gunhouse forward and a lattice mainmast, for twin cargo booms.

Flagship Conversion Notes

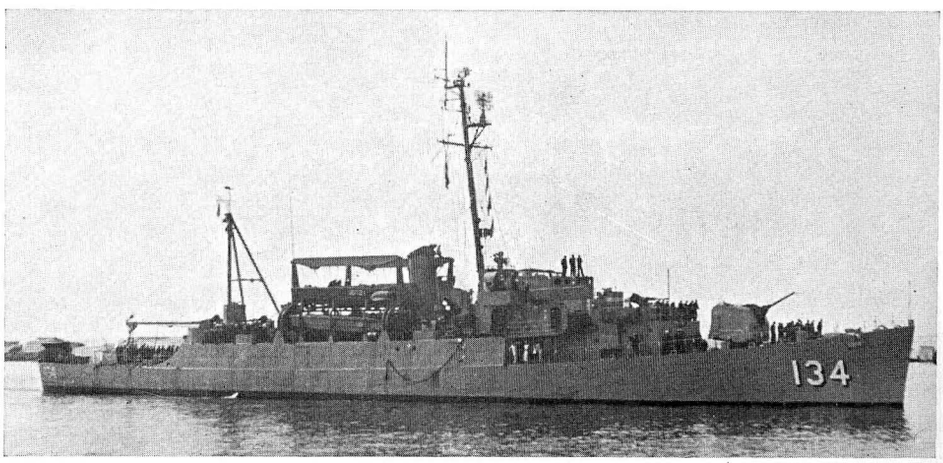
Laning (55), *Lloyd* (63), *Hollis* (86), *Knudson* (101, *Cavallaro* (128), *Cook* (130) and *Balduck* (132) have undergone limited conversion into APD flagships with facilities for added officers and staff quarters.

Transfer Notes

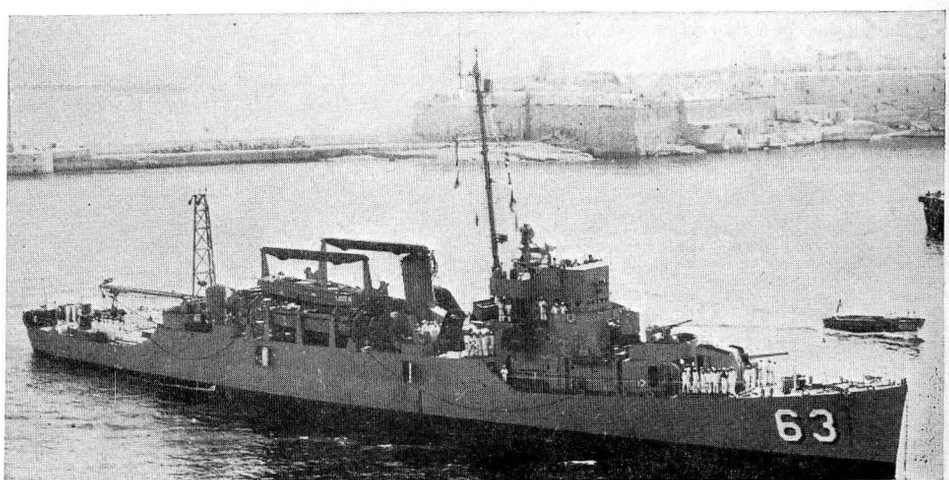
Cavallaro, APD 128, was transferred to Korea in Oct. 1959, at Long Beach, California, and renamed *Kyung Nam*. *Kleinsmith*, APD 134, was transferred to Taiwan China (Formosa) in May 1960, and renamed *Tien Shan*.



KNUDSON (APD Flagship) *Added 1959, Ted Stone*



KLEINSMITH 1959, *Giorgio Arra*



LLOYD (lattice main) 1953, *A. & J. Pavia*

Recent Disposals

Wantuck, APD 125, was stricken from the Navy List on 4 Mar. 1958 after collision with an attack transport (APA). *Carpellotti*, APD 136, was stricken from the Navy List on 1 Dec. 1960. *Amesbury*, APD 46, *Barr*, APD 39, *Bray*, APD 39, *Brock*, APD 93, *Cread*, APD 88, *Crosley*, APD 87, *Frament*, APD 77, *Haines*, APD 84, *Hunter Marshall*, APD 112, *Ira Jeffrey*, APD 44, *John Q. Roberts*, APD 94, *Myers*, APD 105, *Ray K. Edwards*, APD 96, *Reeves*, APD 52, *Rogers Blood*, APD 115, *Runels*, APD 85, *Sims*, APD 50, *Tatum*, APD 81 *Upham*, APD 99, *Walter S. Gorka*, APD 114, *Weber*, APD 75 and *William J. Pattison*, APD, 104, were also stricken a the end of 1960.

ESCORT RESEARCH SHIP (AG)

1 New Construction

Displacement:	1,850 tons
Guns:	3—5 inch, 50 cal. (twin forward, single aft)
A/S weapons:	Rocket launchers, torpedo launchers
Aircraft:	Drone anti-submarine helicopter
Boiler:	Newly developed pressure fired

Notes

An experimental hull of advanced hydrodynamic and propulsion design. To be used to obtain data for determining the optimum configuration for mounting sonar for best performance, and hydrodynamic and self-noise information unobtainable from model tests. Her radical propulsion system will consist of counter-rotating propellers emerging from an electric motor nacelle at the stern to reduce cavitation. It is expected that under normal search conditions it will be virtually free from propeller noises. A long range moulded plastic sonar dome will be built into the stem, and a variable depth sonar installation will be housed in the bottom of the ship. With this combination it is expected to be able to detect and track a submarine at great distances, regardless of its depth. This ship was originally authorised in the 1960 program but action was postponed and she was re-introduced into the 1961 program. To cost $25,250,000.

FLEET MINELAYER (MMF)

1 Large Type
Formerly rated as
Cruiser Minelayer (CM)

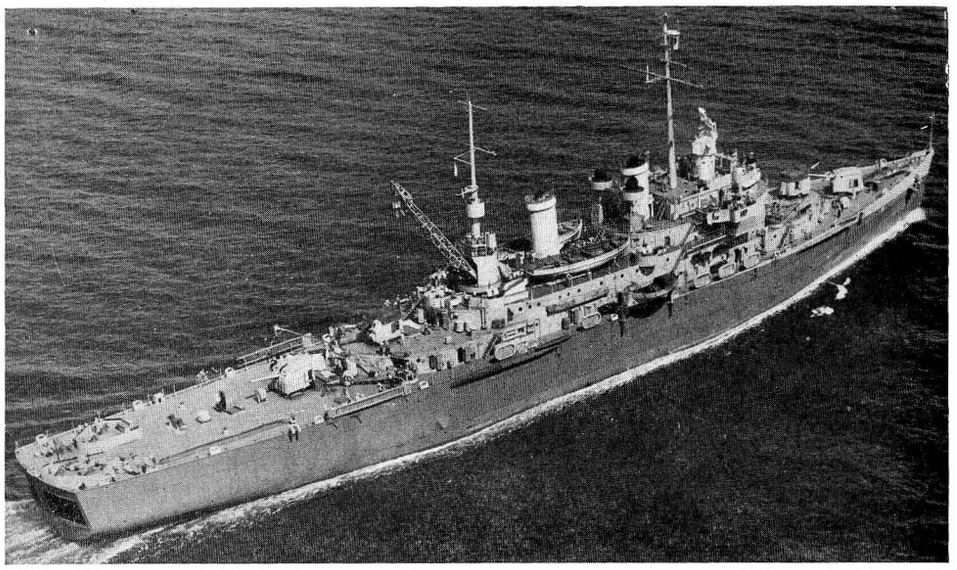
MMF
5 TERROR

Builders:	Philadelphia Navy Yard
Launched:	6 June 1941
Completed:	1942

Displacement:	5,875 tons *standard* (8,650 tons *full load*)
Dimensions:	453⅝ (*o.a.*) × 60¼ × 20˙ *max.*) feet
Guns:	4—5 inch, 38 cal., 24—40 mm. (quadruple mounts)
Mines:	800
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000=20 kts.
Complement:	400 (war)

Notes

Built under the 1938 Program. Built by Philadelphia Navy Yard. Launched on 6 June 1941. Completed in 1942. Mine ports in stern. Cruiser type with high freeboard. Out of commission, in reserve. Formerly known as a Large (Cruiser) Minelayer (CM) but reclassified as a Fleet Minelayers (MM) in Feb. 1955 and designated MMF in 1956.



TERROR — 1950, *U.S. Navy, Official*

MINE COUNTERMEASURES SUPPORT SHIPS (MCS)

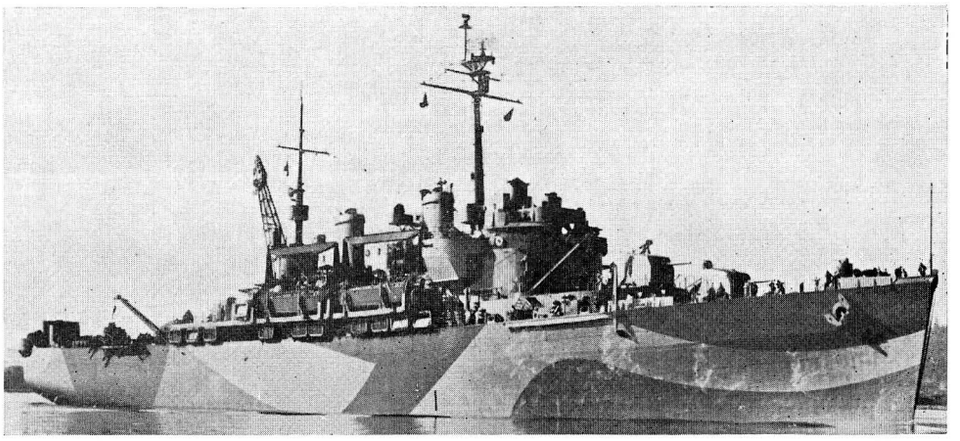
2 Converted Large Minelayer Type

MCS
1 CATSKILL (ex-LSV1, ex-*CM* 6, 19 May 1942)
2 OZARK (ex-LSV2, ex-*CM* 7, 15 June 1942)

Displacement:	5,875 tons *standard* (9,040 tons *full load*)
Dimensions:	440 (*w.l.*), 455½ (*o.a.*) × 60¼ × 20 feet
Guns:	2—5 inch, 38 cal., d.p. 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000=20·3 kts.
Boilers:	4 Combustion Engineering type
Complement:	564

Notes

Both built by Willamette Iron & Steel Corpn., Portland, Oregon, under the 1940 Program. Launch dates above. Designed as Large Minelayers (see photo) but subsequently converted into Landing Ships (Vehicle), LSV. Out of commission, in reserve. Reclassified as Mine Warfare Command and Support Ships and redesignated MCS in 1955. Again reclassified as Mine Countermeasures and Support Ships in 1958, and as Mine Countermeasures Support Ships on 25 Aug. 1960.



OZARK (wartime photo) — *Added* 1957, *U.S. Navy, Official*

3 Converted Netlayer Type

MCS
5 MONITOR (ex-*AN* 1, 29 Jan. 1943)
3 OSAGE (ex-*AN* 3, 30 June 1943)
4 SAUGUS (ex-*AN* 4,4 Sep. 1943)

Displacement:	5,625 tons *standard* (9,040 tons *full load*)
Dimensions:	440 (*w.l.*), 451⅓ (*o.a.*) × 60¼ × 20 feet
Guns:	2 or 3—5 inch, 38 cal. d.p., 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000=20·3 kts.
Boilers:	4 Combustion Engineering type
Complement:	564

Notes

All built by Ingall's S.B. Corpn., Pascagoula, Miss. Launch dates above. Designed as Netlayers and Net Carriers (see photo below), but converted into Landing Ships (Vehicle), LSV. Carry 40 LVTs and 800 troops. Out of commission, in reserve. Reclassified as Mine Warfare Command and Support Ships, MCS, in 1955. Again reclassified as Mine Countermeasures and Support Ships in 1958, and as Mine Countermeasures Support Ships on 25 Aug. 1960.

1 LST Type

MCS 6 ORLEANS PARISH

Notes

The tank landing ship *Orleans Parish*, LST 1069, see later page, was reclassified MCS 6 on 19 Jan. 1959

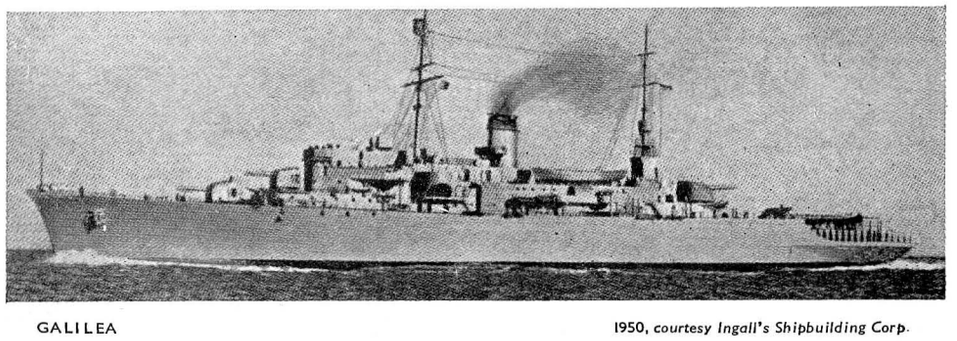
NET CARRIER (Ocean-going) AKN

GALILEA (ex-*Montauk*)

Displacement:	5,625 tons *standard* (9,040 tons *full load*)
Dimensions:	440 (*w.l.*), 451⅓ (*o.a.*) × 60¼ × 20 (*max.*) feet
Guns:	3—5 inch, 38 cal. d.p., 8—40 mm. AA.
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 11,000=20 kts.
Boiler:	4 Combustion Engineering type
Complement:	564

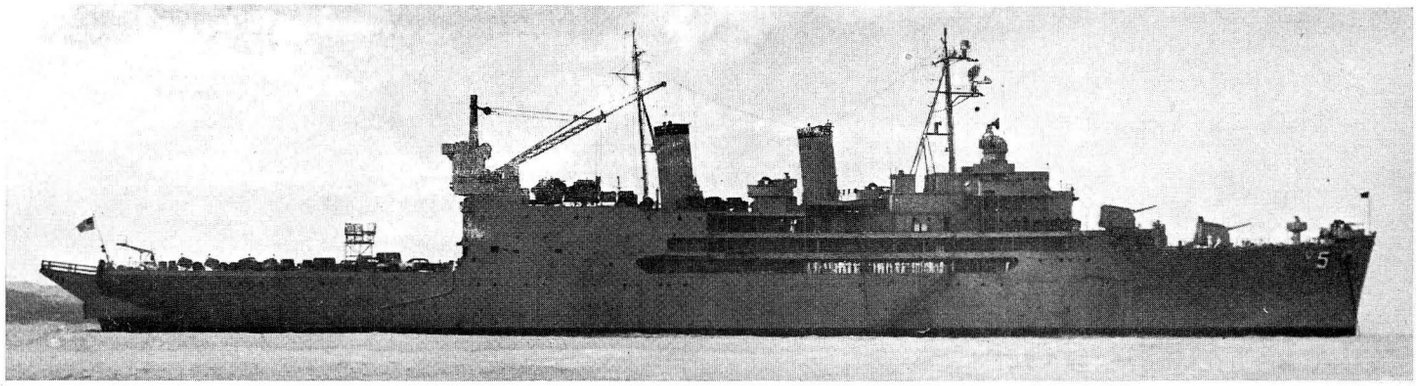
Notes

Laid down on 14 Apr. 1942. Launched on 14 Apr. 1943. Completed on 25 May 1944. AKN 6 (ex-*LSV* 6, ex-*AN* 2, ex-*AP* 161). Specially converted by Ingall's Shipbuilding Corporation, Pascagoula, as a net layer and net cargo ship. In reserve.



GALILEA — 1950, *courtesy Ingall's Shipbuilding Corp.*

GUIDED MISSILE SHIP (AVM) and SEAPLANE CARRIERS (AV)



ALBEMARLE

Added 1958, U.S. Navy, Official

4 "Currituck" Class

AVM 1 NORTON SOUND (ex-*AV* 11, 28 Nov. 1943)
AV 7 CURRITUCK (11 Sep. 1943)
AV 12 PINE ISLAND (26 Feb. 1944)
AV 13 SALISBURY SOUND (ex-*Puget Sound*, 18 June 1944)

Displacement:	9,106 tons *standard* (15,092 tons *full load*)
Dimensions:	520 (*w.l.*), 540½ (*o.a.*) × 69½ × 26 feet
Guns:	4—5 inch, 38 cal., 20—40 mm. AA. (*Norton Sound*: 1—5 inch, 38 cal., 12—40 mm. AA.)
Machinery:	Geared turbines (Parsons in *Currituck*), Allis-Chalmers in others. 2 shafts. S.H.P.: 12,000 = 19·2 kts.
Complement:	1,247 war). 555 (30 officers, 525 men (peacetime)

General Notes

Currituck was built by Philadelphia Navy Yard, others by Todd Shipyards, Los Anglees, *Norton Sound* was adapted as the Navy's seagoing rocket laboratory ship and equipped for experiments with guided missiles. Two forward 5-inch guns were removed to make space for helicopter platform; and her stern crane was removed. The ship carried out experiments in the Pacific, making practice firings with "Loon" missiles, American versions of the wartime V-1 "buzz" bombs, and with shipboard launching of the Navy's "Aerobee," a type rocket which attained altitudes up to 78 miles and speeds estimated at about 2,000 miles an hour. In 1960 *Norton Sound* was assigned to the Operational Test and Evaluation Force.

Guided Missile Notes

Norton Sound, AVM 1, is fitted with a launcher for "Tartar" guided missile testing.

The "Tartar" surface-to-air missile is the primary armament of guided missile destroyers and the secondary armament of three guided missile cruisers under conversion. The missile is about 15 feet in length and 1 foot in diameter.

Conversion Notes

Currituck was modernised under the 1957 conversion program at Philadelphia Naval Shipyard and on completion of the conversion was commissioned on 20 Aug. 1960. (The P6M "Seamaster" jet aircraft programme was cancelled.)

Photograph Notes

A port bow aerial view of *Pine Island* appears in the 1954-55 to 1959-60 editions, and a photograph of *Salisbury Sound* on the next page.



NORTON SOUND

1960, United States Navy, Official

2 "Curtiss" Class

AV 4 CURTISS (20 Apr. 1940)
AV 5 ALBEMARLE (13 July 1940)

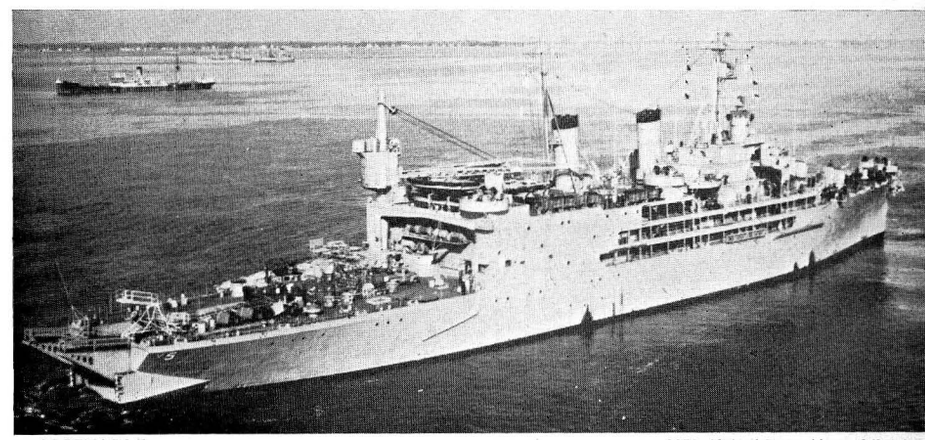
Displacement:	8,671 tons *standard* (13,475 tons *full load*)
Dimensions:	508 (*w.l.*) 527⅓ (*o.a.*) × 69½ × 21⅓ (*max.*) feet
Guns:	4—5 inch, 38 cal., 14—40 mm. AA.
Aircraft:	25
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 12,000 = 19·7 kts.
Boilers:	4 Babcock & Wilcox Express
Complement:	1,195 (war)

General Notes

Built as large seaplane tenders by New York S.B. Corpn., under 1937 and 1938 programs, respectively, with space for Flag and Fleet Air Wing staffs. *Curtiss* was modified for use by the Atomic Energy Commission and Special Assignments. Modifications included the installation of shops and equipment for A.E.C. within former hangar area. She was inactivated and decommissioned to the Reserve Fleet in June 1957.

Conversion Notes

Under the 1956 Fiscal program *Albemarle* underwent modernisation and conversion to handle larger seaplanes at Philadelphia Navy Shipyard for completion in Dec. 1957. She commissioned on 21 Oct. 1957. She is provided with stern ramps, servicing booms, semi-sheltered area, and a service drydock for seaplanes.



ALBEMARLE

1959, United States Navy, Official

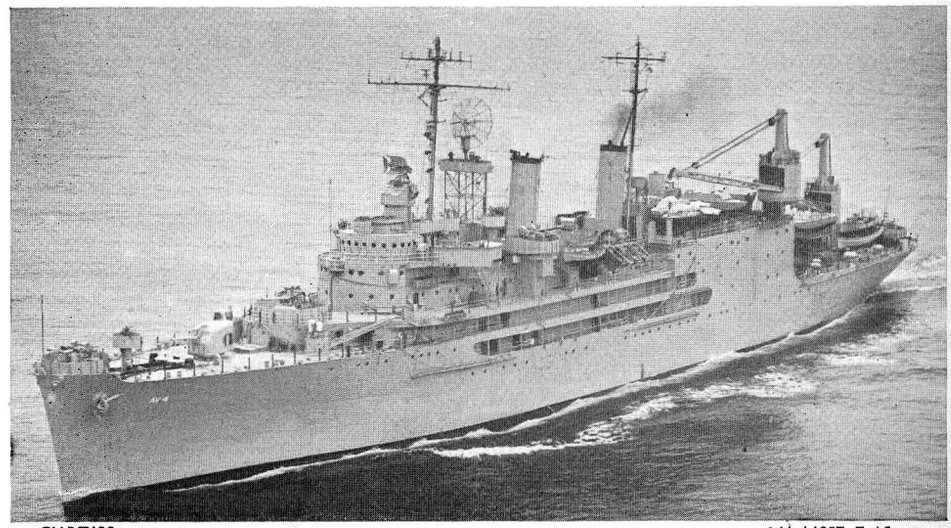
1 "Chandeleur" Type

AV 1 CHANDELEUR

Displacement:	9,031 tons *standard* (14,200 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 23¾ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal.
Machinery:	General Electric geared turbines 1 shaft. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Foster-Wheeler

Notes

Launched on 29 Nov. 1941. Maritime Commission type C3-S1-B1 with single screw. Out of commission, in reserve.



CURTISS

Added 1957, Ted Stone

Seaplane Tenders—*continued*

2 "Tangier" Class

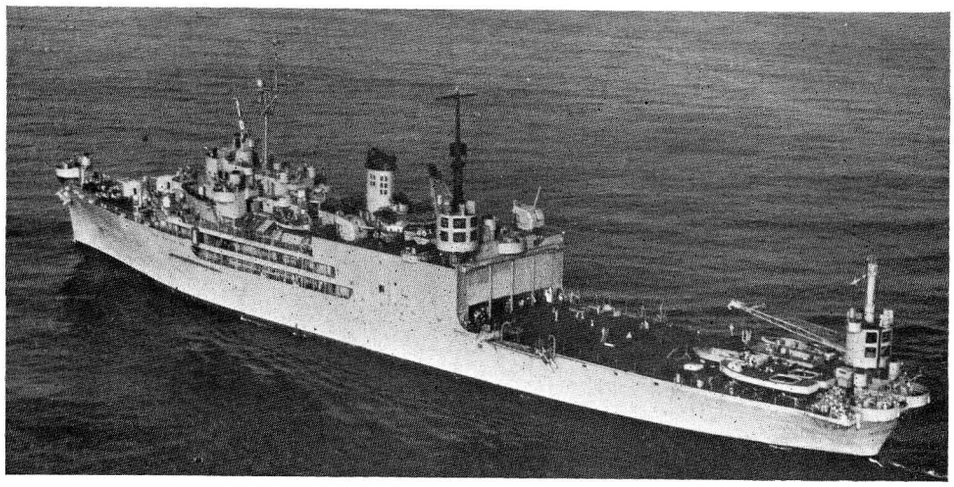
AV 9 POCOMOKE (ex-*Exchequer*, 8 June 1940)

AV 8 TANGIER (ex-*Sea Arrow*, 15 Sep. 1939)

Displacement:	8,560 tons *standard* (14,800 tons *full load*)
Dimensions:	465 (*pp.*), 492 (*o.a.*) × 69¾ × 24¾ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal., 8—40 mm. AA.
Machinery:	Geared turbines (General Electric in *Pocomoke*; De Laval in *Tangier*). 1 shaft. S.H.P.: 8,500=18·4 kts.
Boilers:	2 Foster-Wheeler
Oil fuel:	1,417 tons
Complement:	857

Notes

Modified C 3-Cargo (S) type mercantile conversions. *Pocomoke* was built by Ingalls Shipbuilding Corporation, Pascagoula, Mississippi, and *Tangier* was built by Moore D.D. Corp. Both are out of commission, in reserve



SALISBURY SOUND (see previous page) *Added* 1960, *United States Navy, Official*

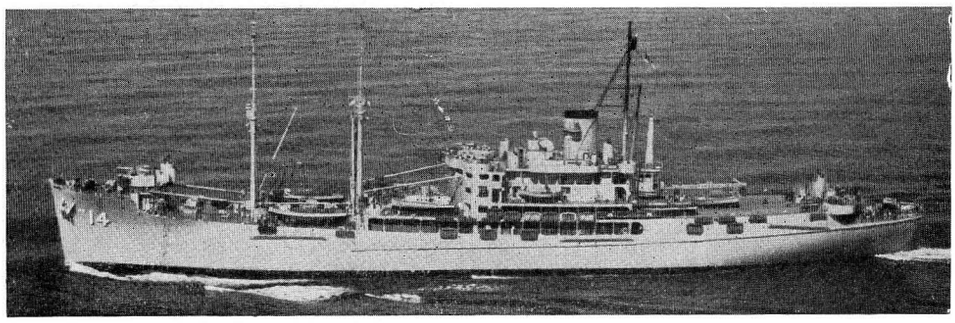
4 "Kenneth Whiting" Class

AV 17 CUMBERLAND SOUND (23 Feb. 1944)
AV 15 HAMLIN (11 Jan. 1944)
AV 14 KENNETH WHITING (15 Dec. 1943)
AV 16 ST. GEORGE (14 Feb. 1944)

Displacement:	8,510 tons *standard* (14,000 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 26 (*max.*) feet
Guns:	2—5 inch, 38 cal., 12—40 mm. AA., 16—20 mm. AA.
Machinery:	Allis-Chalmers geared turbines. 1 shaft. S.H.P.: 8,500=18·7 kts.
Boilers:	2 Foster-Wheeler
Complement:	662 (peace)

Notes

All modified Maritime Commission C3-S-A1 Todd-Pacific type conversions, single screw. All out of commission, in reserve.



KENNETH WHITING 1956, *U.S. Navy, Official*

AMPHIBIOUS FORCE FLAGSHIPS (AGC)

8 "Mount McKinley" Class

AGC
15 ADIRONDACK (13 Jan. 1945)
11 ELDORADO (ex-*Monsoon*, 26 Oct. 1943)
12 ESTES (ex-*Morning Star*, 1 Nov. 1943)
7 MOUNT McKINLEY (ex-*Cyclone*, 27 Sep. 1943)
8 MOUNT OLYMPUS (ex-*Eclipse*, 3 Oct. 1943)
16 POCONO (25 Jan. 1945)
17 TACONIC (10 Feb. 1945)
14 TETON (ex-*Witch of the Wave*, 5 Feb. 1944)

Displacement:	5,450 tons (*Navy light*), 15,295 tons *full load*
Dimensions:	435 (*w.l.*), 459⅛ (*o.a.*) × 63 × 28¼ (*max.*) feet
Guns:	1—5 inch, 8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 6,000=16·4 kts.
Boilers:	2 Combustion Engineering type
Complement:	About 550 (*Mount McKinley* 36 Officers, 481 men)

General Notes

C2-S-A1 type, but differ. Radar and radio equipment is exceptionally elaborate. Twin 40 mm. installed on extended stern of *Eldorado* instead of 5 inch, 38 cal., as formerly. *Adirondack*, *Pocono* and *Taconic* have single mast instead of after king-post.

Class Notes

Adirondack, *Pocono* and *Taconic* are of a slightly different class.

Flagship Notes

Originally rated as Combined Operations Communications Headquarters Ships, these vessels are fitted as flagships for Chiefs of Combined Forces, with accommodation for Marine and Army units attached. In 1951 the *Mount Olympus* temporarily relieved the heavy cruiser *Columbus* as flagship of the Commander-in-Chief, American Forces, Eastern Atlantic and Mediterranean.

Helicopter Notes

After guns removed in *Eldorado* and helicopter landing platform installed. *Estes*, *Mount Olympus*, *Pocono* and *Mount McKinley* also fitted with helicopter landing platform on stern.

Photograph Notes

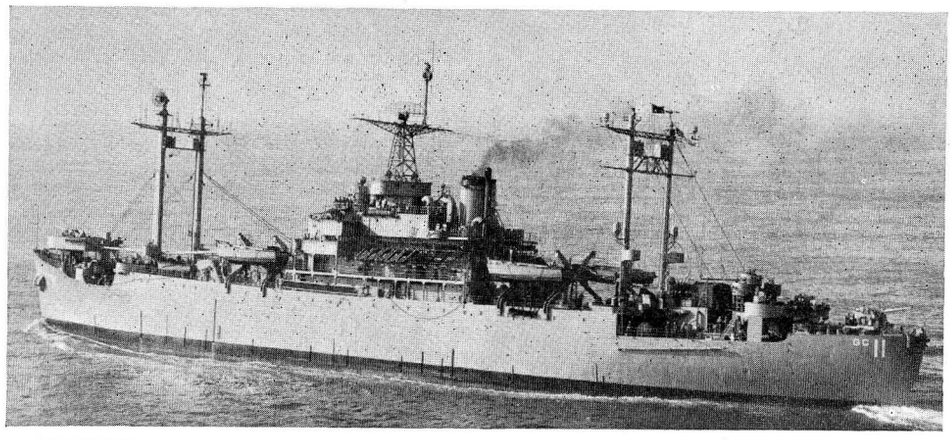
A port quarter view of *Moont Olympus* appears in the 1952-53 to 1959-60 editions.

Recent Disposals

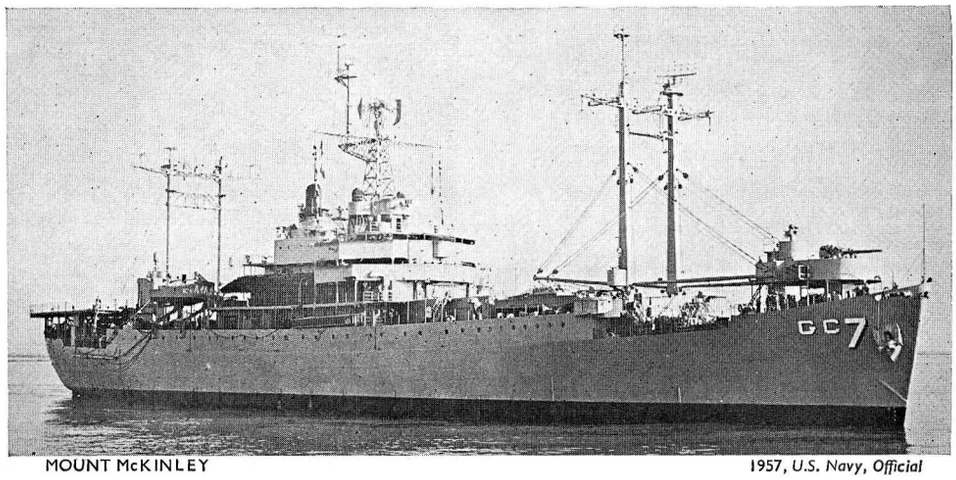
Wasatch (ex-*Fleetwing*), AGC 9, of the "Mount McKinley" class was stricken on 1 Jan. 1960, and *Auburn*, AGC 10, and *Panamint*, AGC 13, at the end of 1960. Of the four amphibious force flagships of the "Appalachian" class, *Appalachian*, AGC 1, and *Catoctin*, AGC 5, were stricken from the Navy List on 1 Mar. 1959, and their sister ships *Blue Ridge*, AGC 2, and *Rocky Mount*, AGC 3, were stricken on 1 Jan. 1960.

Yacht Type

There is also a small AGC, the 1,730-ton yacht *Williamsburg*, AGC 369, launched in 1931 and acquired in 1941. She was refitted and reclassified as an amphibious force flagship in 1946 and used as the Presidential Yacht until the end of 1952. She is now decommissioned and in reserve. Full particulars appear in the 1959-60 and earlier editions and a photograph in the 1952-53 to 1957-58 editions.

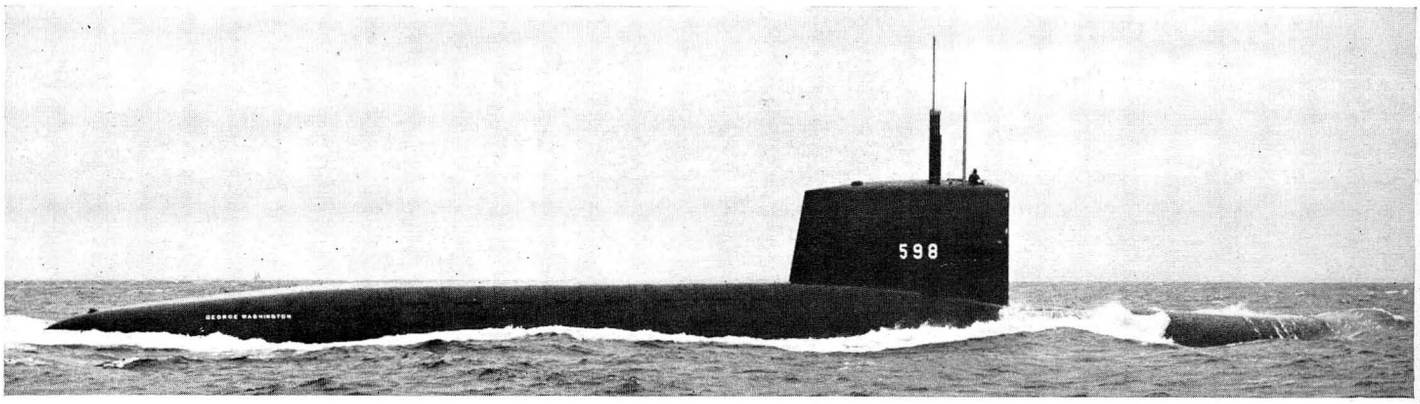


ELDORADO *Added* 1960, *Ted Stone*



MOUNT McKINLEY 1957, *U.S. Navy, Official*

SUBMARINES



GEORGE WASHINGTON — 1960, *Electric Boat Division, General Dynamics Corporation, Groton, Conn. (Builders)*

Nuclear powered fleet ballistic missile submarine capable of firing the 1,500 mile " Polaris " missile from below the surface

Nuclear Powered Fleet Ballistic Missile Submarines (SSBN)

4 " Lafayette " Class

1 *Electric Boat Division, General Dynamics Corporation*
SSBN 616 LAFAYETTE

1 *Newport News Shipbuilding and Dry Dock Company*
SSBN 618

2 *Mare Island Naval Shipyard, California*
SSBN 619
SSBN 620

Displacement:	7,000 tons.
Dimensions:	Length: 425 feet
Guided missiles:	16 " Polaris "
Machinery:	1 pressurised water cooled nuclear reactor. Geared turbines
Complement:	100

Notes

These latest " Polaris " missile submarines will be the largest undersea craft ever built, it was officially stated by the U.S. Navy on 2 Aug. 1960. *Lafayette* is named after the French aristocrat who served with Washington in the American Revolution, she will be built by the Electric Boat Division of the General Dynamics Corporation, Groton, Connecticut.

SSBN 616 is to be the prototype and lead ship of the fourth class of " Polaris " missile submarines. Construction plans and design were awarded to the Electric Boat Division on 24 Mar. 1960.

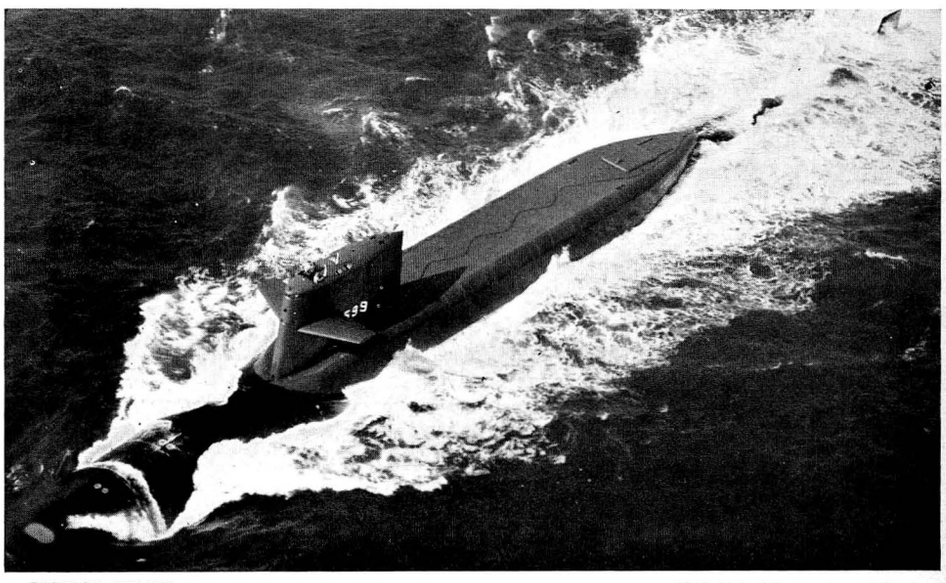
7 Projected

SSBN
SSBN
SSBN
SSBN
SSBN
SSBN
SSBN

Displacement:	6,900 tons *standard*
Guided missiles:	16 " Polaris "
Machinery:	1 pressurised water cooled nuclear reactor. Geared turbines

Notes

In the Fiscal Year 1960 long lead items were requested for three SSBN to be built under the Fiscal Year 1961 Program, which were duly authorised with two more (full funds) together with long lead items for seven more. The " Polaris " missiles are to be launched from 16 vertical launchers within the submarine's hull.



PATRICK HENRY — 1960, *United States Navy, Official*

Nuclear Powered Attack Submarines (SSN)

4 New Construction

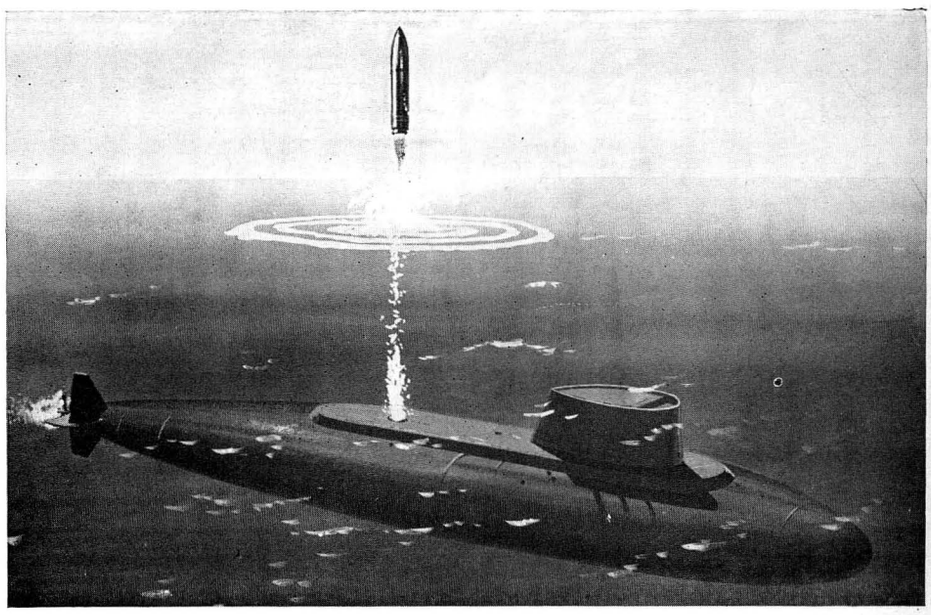
1 *New York Shipbuilding Corporation, Camden, New Jersey*
SSN 612 GUARDFISH

3 *Electric Boat Division, General Dynamics Corporation*
SSN 613 FLASHER
SSN 614 GREENLING
SSN 615 GATO

Displacement:	3,250 tons *standard*
Dimensions:	Length: 274 feet. Beam : 32 feet
Machinery:	1 Westinghouse pressurised water cooled nuclear reactor. Geared turbines

Notes

These four SSN were requested in the Fiscal Year 1960 Program. Of the " Thresher " type. Cost, $49,000,000 each.



NUCLEAR POWERED FLEET BALLISTIC MISSILE SUBMARINE (artist's conception) — 1958, *U.S. Navy, Official*

Nuclear Powered Fleet Ballistic Missile Submarines (SSBN)

5 " Ethan Allen " Class

3 *Electric Boat Division, General Dynamics Corporation*
SSBN 608 ETHAN ALLEN
SSBN 610 THOMAS A. EDISON
SSBN 617

2 *Newport News Shipbuilding and Dry Dock Company*
SSBN 609 SAM HOUSTON
SSBN 611 JOHN MARSHALL

Displacement:	6,900 tons *standard*
Dimensions:	Length: 410 feet. Beam: 33 feet
Guided missiles:	16 " Polaris " missiles with a range of 1,500 miles
Machinery:	1 Westinghouse pressurised water cooled nuclear reactor. Geared turbines (General Electric in 608, 610; Westinghouse in 609, 611)
Complement:	100

Notes

Ethan Allen, laid down on 14 Sep. 1959 and scheduled to be commissioned in June 1961, is the lead ship in a new class of fleet ballistic missile submarines, larger than the " George Washington " class, with a new hull design. She will cost $105,000,000. She is of a different and much improved type over the first group of SSBNs and will exceed their 5,600 tons. One big difference is that the hull has been specially designed to accommodate the guided missiles, whereas the hulls of the first five SSBNs were adapted from existing hull designs. Contracts for *Sam Houston, Thomas A. Edison* and *John Marshall*, were awarded on 1 July 1959 (see builders above). Laid down on 28 Dec. 1959 (*Sam Houston*) and 15 Mar. 1960 (*Thomas A. Edison*). To be completed in 1962. " Thresher " design. All ballistic missile submarines are named after men famous in American history.

Submarines—*continued*

Nuclear Powered Attack Submarines (SSN)
2 New Construction

1 *Ingalls Shipbuilding Corporation, Pascagoula, Mississippi*
SSN 607 DACE
SSN 621

Displacement:	3,350 tons *standard* (officially revised figures)
Dimensions:	274×32 feet
Machinery:	1 Westinghouse pressurised water cooled nuclear reactor. Westinghouse geared turbines

Notes
Dace was authorised under the Fiscal Year 1959 new construction program. Developed from the prototype *Thresher*. Due to the cancellation of the "Regulus II" missile this additional SSN is being constructed in lieu of the originally planned SSGN. Laid down on 6 June 1960. To be launched about Mar. 1962 and commissioned about Dec. 1962.
SSN 621 was awarded under the Fiscal 1961 program.

Nuclear Powered Attack Submarines (SSN)
4 New Construction

2 *New York S.B. Corpn.*
SS (N) 604 HADDO
SS (N) 603 POLLACK (ex-*Barb*)

2 *Portsmough Naval Shipyard*
SS (N) 605 JACK
SS (N) 606 TINOSA

Displacement:	3,350 tons *standard*
Dimensions:	274×32 feet
Machinery:	1 Westinghouse pressurised water cooled nuclear reactor. Geared turbines: General Electric in *Haddo, Jack* and *Pollack;* De Laval in *Tinosa*

Notes
Authorised under the Fiscal Year 1959 new construction program. To have "Albacore"-type hulls. *Pollack* was laid down on 14 Mar. 1960 and will be launched about Sep. 1961. *Haddo* was laid down in Aug. 1960 and will be launched about Jan. 1962. *Jack* was laid down on 16 Sep. 1960 and will be launched about Nov. 1961 and completed about Oct. 1962. These three are "Thresher" class. The name of SSN 603 was changed from *Barb* to *Pollack* on 23 July 1959 *Tinosa*, which was laid down on 24 Nov. 1959 and will be launched in July 1961 and commissioned about May 1962, will have diving and steering operations controlled automatically through push buttons.

Nuclear Powered Fleet Ballistic Missile Submarines (SSBN)
5 "George Washington" Class

2 *Electric Boat Division General Dynamic Corporation*
SSB (N) 598 GEORGE WASHINGTON
SSB (N) 599 PATRICK HENRY

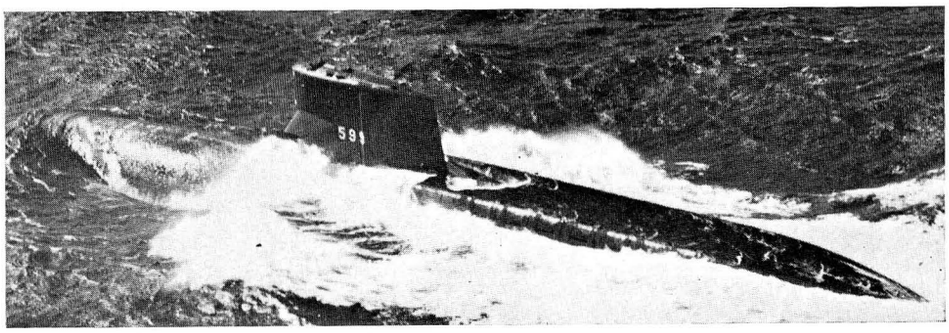
1 *Mare Island Naval Shipyard, California*
SSB (N) 600 THEODORE ROOSEVELT

1 *Newport News*
SSB (N) 601 ROBERT E. LEE

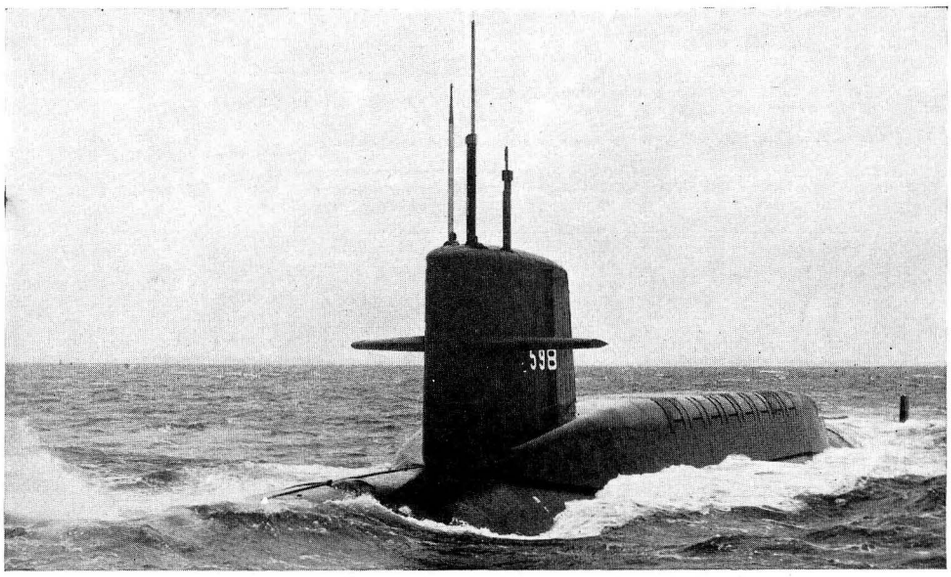
1 *Portsmouth Naval Shipyard*
SSB (N) 602 ABRAHAM LINCOLN

Displacement:	5,400 tons *light*, 5,600 tons *standard*, 6,700 tons *submerged*
Dimensions:	Length: 382 feet. Beam: 32 feet
Guided missiles:	16 "Polaris" missiles (28 feet long, 50 ins. diam., 15 tons weight, with nuclear warheads, and a range of 1,200 miles), capable of being launched while surfaced or submerged.
Tubes:	4—21 inch forward
Machinery:	1 Water-cooled nuclear reactor by Westinghouse. General Electric geared turbines
Complement:	100 (10 officers, 90 men). SSBNs will have two complete crews assigned designated "Blue" and "Gold" which will relieve each other approximately every three months.

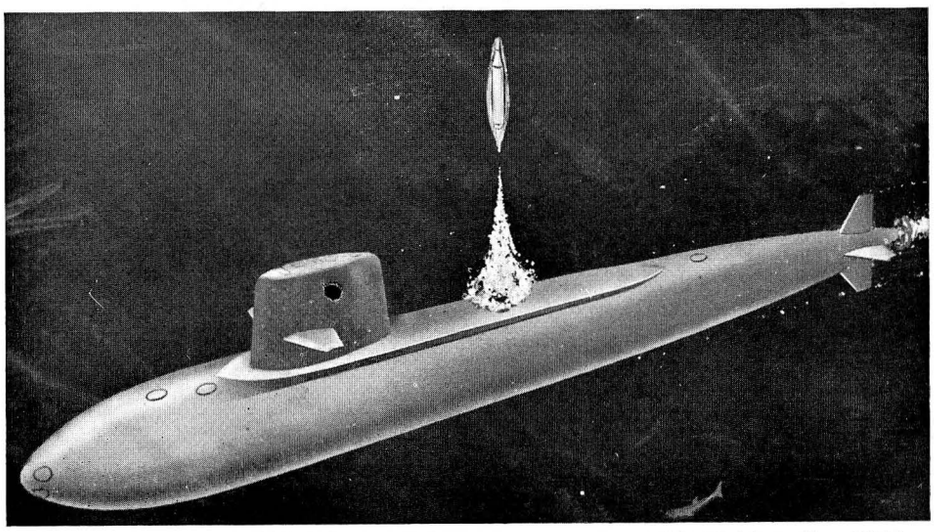
General Notes
The First 1957-58 Supplemental New Construction Program signed on 11 Feb. 1958 provided $296,000,000 for the construction of three nuclear powered guided missile submarines armed with "Polaris" fleet ballistic weapons. They will have "Albacore" type hull configuration, giving them high underwater speed, and will be equipped with "SINS", the U.S. Navy's revolutionary new navigational system, and with new stabilising and electronics apparatus incorporating the most recent engineering advances. These three submarines are designed specifically for carrying and launching the "Polaris" missile, to be fired with submarine submerged, vertically from within the submarine. "Subroc" anti-ship missiles to be fired through torpedo tubes. They will differ from nuclear powered submarines now under construction chiefly in their missile features. Ordered on 14 Feb. 1958. This class have an auxiliary diesel engine and batteries, both of which can be used for emergency propulsion.



PATRICK HENRY — 1960, *Electric Boat Division, General Dynamics Corporation*



GEORGE WASHINGTON — 1960, *Electric Boat Division, General Dynamics Corporation*



POLARIS MISSILE SUBMARINE (artist's conception) — 1959, *United States Navy, Official*

In Apr. 1958 funds were requested for two more nuclear powered fleet ballistic missile submarines for carrying the "Polaris" missile, under the Second 1957-58 Supplemental New Construction Program. They will have whale-shaped hulls. Six submarines of this class were authorised by Congress. Two were awarded in July 1958. SSBNs 598-602 are of modified "Skipjack" design with a 128-ft. missile launching section inserted.

Guided Missile Notes
George Washington successfully fired the solid-fuelled "Polaris" missile for the first time from a submarine from a submerged position on 20 July 1960.
The sixteen launching tubes are arranged in double vertical rows along the after deck abaft the "sail" (conning tower fin). The gyrostabiliser has an 8 ft. diameter wheel with a weight of 22 tons and a total weight of 50 tons.

Name	*Laid down*	*Launched*	*Completed*
George Washington	1 Nov. '57	9 June '59	30 Dec. '59
Patrick Henry	27 May '58	22 Sep. '59	9 Apr. '60
Theodore Roosevelt	20 May '58	3 Oct. '59	Dec. '60*
Robert E. Lee	25 Aug. '58	18 Dec. '59	16 Sep. '60
Abraham Lincoln	1 Nov. '58	14 Apr. '60	Dec. '60*

* Officially estimated date

Nuclear Powered Attack Submarines, SS(N)
1 Improved "Tear-drop" Design

1 *Portsmouth Naval Shipyard, New Hampshire*
SS(N) 593 THRESHER

Displacement:	3,250 tons *light*, 3,747 tons *standard*, 4,300 tons *submerged*
Dimensions:	278×32 feet
A/S weapons:	SUBROC
Tubes:	Torpedo tubes amidships
Machinery:	Westinghouse water-cooled nuclear reactor. General Electric geared turbines. 1 shaft
Radius:	60,000 miles without refueling
Complement:	88 (8 officers, 80 men)

Notes
Provided under the 1957 naval appropriations. This submarine is of the improved "tear-drop" hull design and configuration which was pioneered by *Albacore*. She is a logical successor of *Skipjack*, the prototype of the new conception. She will have diving planes attached to the conning tower instead of the bow as usual to improve manoeuvrability. Single screw propulsion. Torpedo tubes set in both sides of the hull amidships instead of in the bow. Capable of diving deeper and running more quietly at high speed than any other U.S. submarine. Laid down on 28 May 1958, launched bow first on 9 July 1960 and scheduled to be commissioned about Apr. 1961.

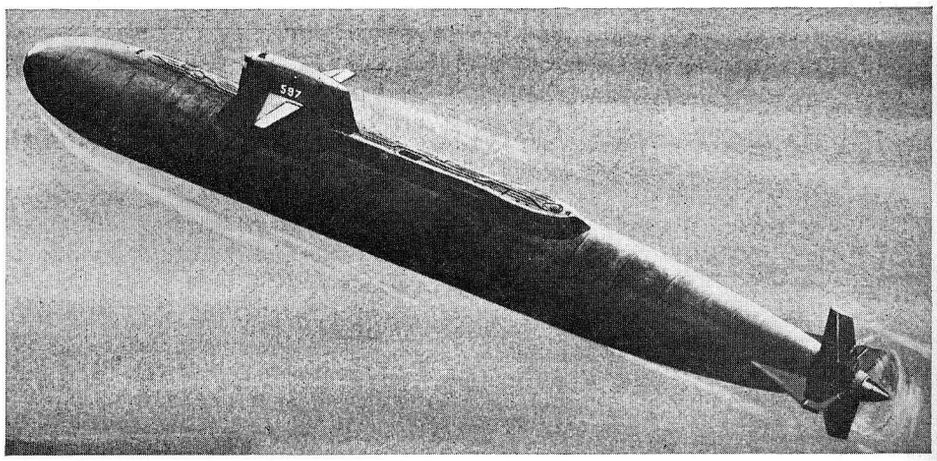
Nuclear Powered Hunter-Killer Submarine (SSN)

1 Anti-Submarine Type

1 *Electric Boat Division, General Dynamics Corporation*
SSN 597 TULLIBEE

Displacement:	2,000 tons *light*, 2,175 tons *standard* 2,600 tons *submerged*
Dimensions:	273×29 feet
Tubes:	Torpedo tubes amidships
Machinery:	Combustion Engineering water-cooled S1C nuclear reactor. Westinghouse turbines. Turbo-electric drive. S.H.P.: 2,500

General Notes
" Small " submarine awarded under the fiscal 1958 construction program to the General Dynamics Corporation. To be an anti-submarine submarine. Speed will be secondary to manoeuvrability. To have " Albacore " type hull. Keel laid 26 May 1958, launched on 27 Apr. 1960 and scheduled to be commissioned about Oct. 1960. She is described as the " closest thing to a true submersible."
Design Notes
Her design is based on the shape of a whale, with a bow configuration of " tear-drop " form, and her diving planes project from the " sail " (fin-shaped conning tower).
Sonar Note
Equipped with the latest scientific sonar tracking apparatus, and unique sound-proofing. The placing of the torpedo tubes amidships allows for an unprecedented number of sonar tracking transducers and hydrophones in the bow area which provide " ears " for detecting enemy submarines.



TULLIBEE (artist's conception) 1959, *United States Navy, Official*

Engineering Notes
Prototype reactor built by Reactor Division of Combustion Engineering, Windsor, Connecticut. The machinery comprises turbo-electric drive instead of reduction gears as in other nuclear powered submarines.

It is officially stated that the *Tullibee* has been designed to take full advantage of nuclear power in a high speed, highly manoeuvrable submarine that can operate submerged to the limit of her crew's endurance.

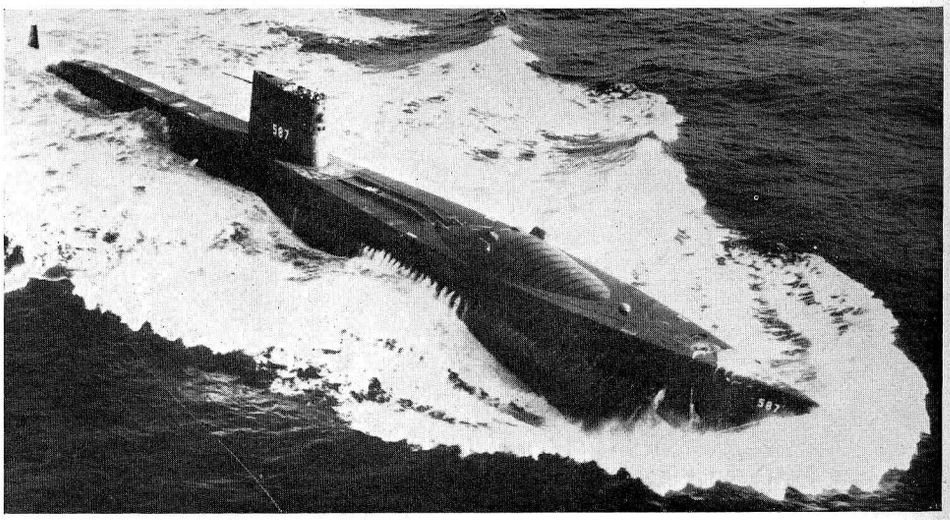
Nuclear Powered Guided Missile Submarine SSG (N)

1 New Construction

1 *Mare Island Naval Shipyard, California*
SSG (N) 587 HALIBUT

Displacement:	2,900 tons *light*, 3,555 tons *standard*, 5,000 tons *submerged*
Dimensions:	350×29 feet
Machinery:	Westinghouse water-cooled nuclear reactor. Westinghouse geared turbines
Guided missiles:	" Regulus " fired from the surface. Torpedo battery.

Notes
Provided under the 1956 Naval Appropriations. This submarine was originally designed as a diesel powered ship but it was announced on 27 Feb. 1956 that she would be nuclear powered instead of having conventional propulsion. She will be fitted to handle " Regulus I " guided missiles. The U.S. Navy's first guided missile, nuclear powered submarine and the first ever designed from the keel up as a guided missile carrier. Her hull is designed primarily to provide a stable launching platform, rather than for speed or manoeuvrability. Laid down on 11 Apr. 1957, launched on 9 Jan. 1959, and commissioned on 4 Jan. 1960. She was to have carried " Regulus II " missiles, but the " Regulus II " project was cancelled.



HALIBUT (first guided missile nuclear-powered submarine 1960 *United States Navy, Official*

Nuclear Powered Attack Submarines, SS(N)

6 " Skipjack " Class

2 *Electric Boat Division, General Dynamics Corporation*
SS(N) 585 SKIPJACK **SS(N) 589 SCORPION**

2 *Ingalls Shipbuilding Corporation, Pascagoula, Mississippi*
SS(N) 590 SCULPIN **SS(N) 592 SNOOK**

1 *Mare Island Naval Shipyard*
SS(N) 588 SCAMP

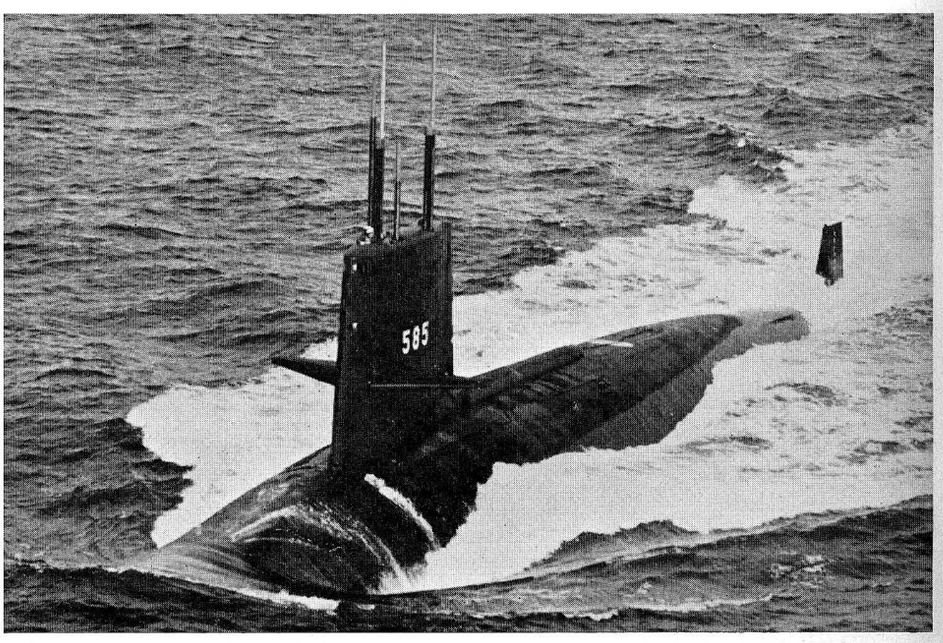
1 *Newport News Shipbuilding*
SS(N) 591 SHARK

Displacement:	2,310 tons *light*, 2,830 tons *surface*, 3,500 tons *submerged*
Dimensions:	252×32 feet
Tubes:	6 bow (24 torpedoes carried)
Machinery:	Westinghouse pressurised water-cooled nuclear reactor. Westinghouse geared turbines in *Skipjack*, General Electric in others. 1 shaft. Speed: " in excess of 20 kts."
Radius:	60,000 miles
Complement:	83 (8 officers, 75 men)

Name	*Laid down*	*Launched*	*Completed*
Skipjack	29 May 1956	26 May 1958	15 Apr. 1959
Scamp	23 Jan. 1959	8 Oct. 1960	Mar. 1960*
Scorpion	20 Aug. 1958	19 Dec. 1959	29 July 1960
Sculpin	3 Feb. 1958	31 Mar. 1960	Mar. 1961*
Shark	24 Feb. 1958	16 Mar. 1960	Dec. 1960*
Snook	7 Apr. 1958	Sep. 1960*	June 1961*

* Officially estimated dates

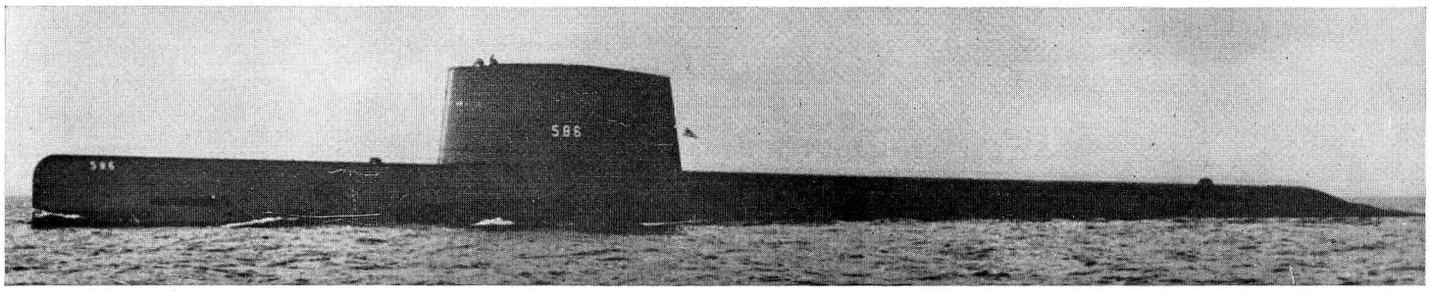
General Notes
Skipjack, the prototype of the class, which was built under the Fiscal Year 1956 program, has the " Albacore " type streamline hull configuration based on the shape of a whale, and a " tear-drop nose," and single screw propulsion, which, with her advanced power plant, gives her superior range, speed, and underwater manoeuvrability. She incorporates several novel features, including hydro-wings or diving planes fitted to the conning tower " fin," or " the sail," as the conning tower is now called on nuclear submarines, instead of being encumbered by bow hydroplanes. She has missile guidance capability. Cost $40,000,000. *Scamp, Scorpion, Sculpin, Shark* and *Snook* were provided under the 1957 program. They are all of improved " tear-drop " design and configuration pioneered by *Albacore*.



SKIPJACK 1959, *United States Navy, Official*

Engineering Notes
The five-bladed propellor provides maximum speed and manoeuvrability On trials she made the highest speed over attained by a submarine She has auxilliary diesels for emergency propulsion

Submarines—*continued*



TRITON
Largest United States submarine, nuclear powered radar picket type, engined by twin reactors

1960, *courtesy Electric Boat Division, General Dymanics Corporation, Groton, Connecticut (Builders)*

Nuclear Powered Attack Submarines (SSN)
3 New Construction

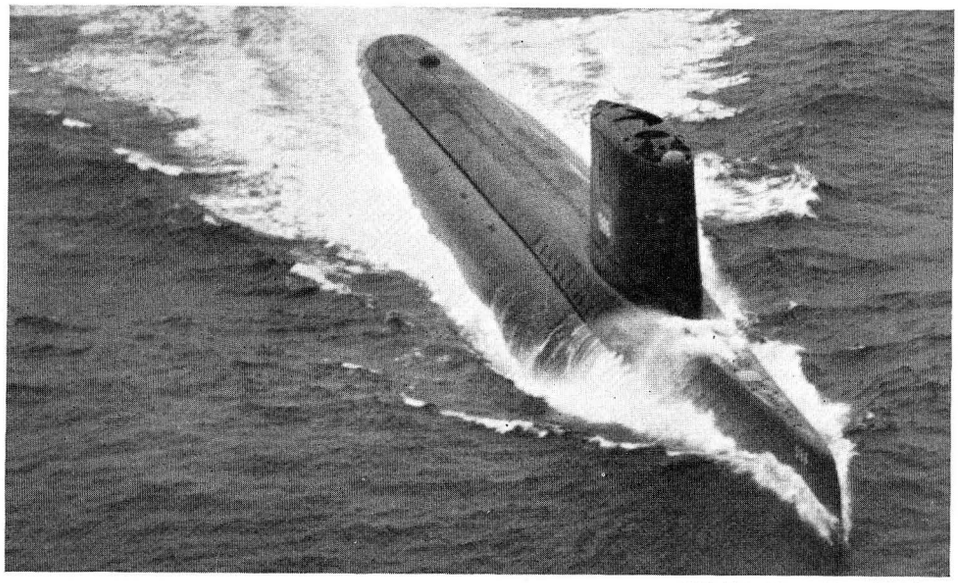
1 *Mare Island Naval Shipyard, California*
SSN 594 PERMIT

1 *Portsmouth Naval Shipyard, New Hampshire*
SSN 595 PLUNGER (ex-*Pollack*)

1 *Ingalls Shipbuilding Corporation, Pascagoula, Mississippi*
SSN 596 BARB (ex-*Pollack*, ex-*Plunger*)

Displacement:	3,350 tons *standard*
Dimensions:	278×32 feet
Tubes:	*Plunger:* torpedo tubes amidships
Machinery:	Westinghouse pressurised water cooled nuclear reactor. Westinghouse geared turbines (one to have De Laval turbines)

Notes
All three being built under the Fiscal 1958 New Construction Program. These are advanced design submarines with a single screw, increased power, and higher submerged speeds than the *Halibut* SSG (N) 587. They were to have handled "Regulus II" guided missiles, but owing to the cancellation of the "Regulus II" project they will be completed as non-missile fleet type submarines. *Permit* is a prototype, she was laid down on 16 July 1959 and her estimated launch date is Jan. 1961. *Barb* and *Plunger* are of the "Thresher" type. *Barb* was laid down on 9 Nov. 1959 and *Plunger* on 2 Mar. 1960.
The name of SSN 596 was changed from *Plunger* to *Pollack* on 28 Apr. 1959 and again changed to *Barb* on 23 July 1959.



TRITON

1960, *United States Navy, Official*

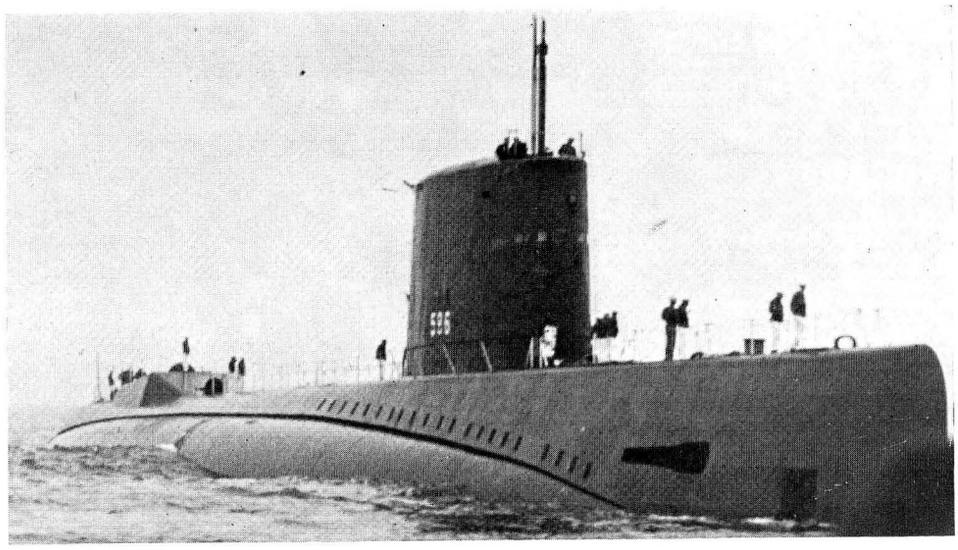
Nuclear Powered Radar Picket Submarine SSR(N)
1 Very Large Type

1 *Electric Boat Division, General Dynamics Corporation, Groton, Conn.*

SSR (N) 586 TRITON

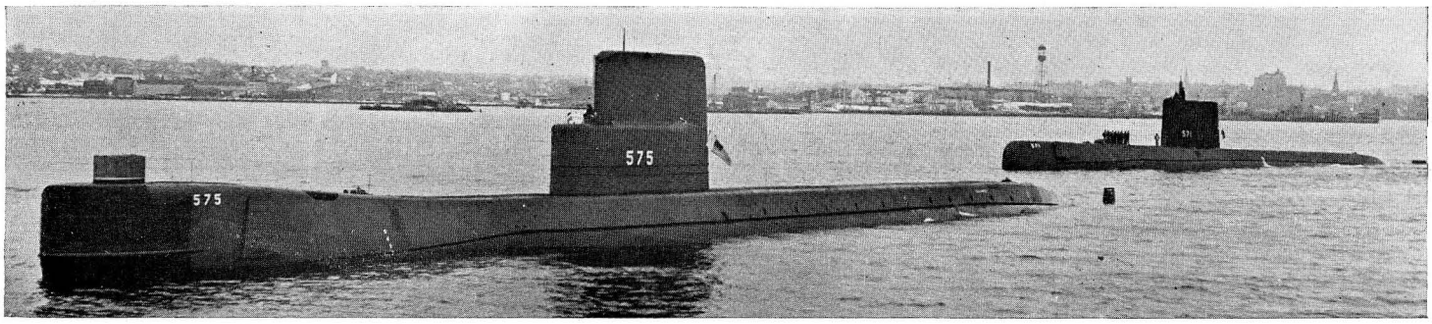
Displacement:	5,650 tons *light*, 5,900 tons *standard*, 7,750 tons *submerged*
Dimensions:	Length: 447 feet. Beam: 37 feet. Draught: 25 feet
Tubes:	6—21 inch (4 forward, 2 aft)
Machinery:	2 General Electric water-cooled S3G nuclear reactors. 2 General Electric geared turbines. 2 shafts. Speed=30 kts. *surface* and about 20 kts. *submerged*
Radius:	110,000 miles cruising range without refuelling.
Complement:	148 (13 officers and 135 men)

Notes
The world's largest and most powerful submarine. Provided under the 1956 Naval Appropriations. Designed to serve as an early warning station for U.S. Navy task forces, and to keep up with the fastest aircraft carriers and destroyers. The United States Navy's first nuclear powered radar picket submarine and the largest submarine ever built, and the first to be powered with two nuclear reactors. Engined by the General Electric Co. Her design emphasises fast surface speed so that she may better accomplish her radar picket duties, it is officially stated. She has three deck levels within her hull. Laid down on 21 May 1956, launched on 19 Aug. 1958, and commissioned on 10 Nov. 1959. Completed the first two days of builders' trials on her initial trip to sea on 28 Sep. 1959. Cost $100,000,000. She circumnavigated the globe submerged in 1960 for 83 days and 41,500 miles at an average speed of 18 kts.



TRITON

1960, *courtesy Electric Boat Division, General Dynamics Corporation*



SEAWOLF (foreground) and NAUTILUS. The world's first two nuclear powered submarines together (see next page)

1957, *United States Navy, Official*

Nuclear Powered Attack Submarines SS(N)

4 "Skate" Class

1 *Electric Boat Division, General Dynamics Corporation,*
SS(N) 578 SKATE

1 *Mare Island Naval Shipyard, California*
SS(N) 583 SARGO

2 *Portsmouth Naval Shipyard, New Hampshire*
SS(N) 584 SEADRAGON SS(N) 579 SWORDFISH

Displacement:	2,190 tons *light* 2,360 to 2,382 tons *standard* 2,861 tons *submerged*
Dimensions:	*Skate, Seadragon:* 268×25 feet. *Sargo, Swordfish:* 267⅔ (*o.a.*)×25×20¼ feet.
Tubes:	6—21 inch (2 stern)
Machinery:	Westinghouse water-cooled nuclear reactor. Westinghouse geared turbines. Speed: 15 kts. (*surface*). 18 kts. (*submerged*). 2 shafts. Average underwater cruising speed of *Skate*=19 kts.
Complement:	97 (*Sargo*), 83 (*Seadragon* and *Swordfish*), 9 officers, 86 men (*Skate*)

Notes

Skate was provided under the 1954 naval appropriations, *Swordfish* under 1955, *Sargo* and *Seadragon* under 1956. *Sargo, Seadragon* and *Swordfish* are of the same class as the *Skate* which has stern diving planes and was commissioned on 23 Dec. 1957. All these ships have twin screws and a hull configuration similar to that of *Nautilus* and *Seawolf*. *Swordfish*, commissioned 15 Sep. 1958, was engined by Westinghouse. *Scadragon* is equipped with missile guidance gear. *Skate* completed the second submerged crossing of the North Pole on 9 Aug. 1958, after having held the (then) record of 32 days submerged; and she completed a 12-day sub-Polar cruise, surfacing on 17 Mar. 1959 at the North Pole. *Sargo* commissioned 10 Oct. 1958. *Seadragon* transited Northwest Passage east to west 15—21 Aug. 1960 (Atlantic to Arctic Ocean).

Name	*Laid down*	*Launched*	*Completed*
Sargo	21 Feb. 1956	10 Oct. 1957	1 Oct. 1958
Seadragon	20 June 1956	16 Aug. 1958	5 Dec. 1959
Skate	21 July 1955	16 May 1957	31 Jan. 1958
Swordfish	25 Jan. 1956	30 July 1957	1 Oct. 1958

Prototype Nuclear Powered Submarines SS(N)

2 Experimental Types

2 *Electric Boat Division, General Dynamics Corporation*

SS(N) 575 SEAWOLF

Displacement:	3,260 tons *light*, 3,495 tons *standard* (*surface*), 4,110 tons (*submerged*)
Dimensions:	338½ (*o.a.*)×30×21½ (*mean*) feet
Tubes:	6—21 inch
Machinery:	Water-cooled nuclear reactor (see *Engineering Notes*). General Electric geared turbines. S.H.P.: 15,000=18·8 kts. (*surface*), over 20 kts. (*submerged*)
Range:	70,000 miles cruising
Complement:	112 (10 officers, 102 men)

General Notes

Seawolf was ordered on 19 July 1952, with engine by the General Electric Company. First trials were carried out on 21 Jan. 1957. Building dates in table below.

Engineering Notes

The sodium cooled intermediate reactors originally manufactured by the General Electric Company are being replaced by water cooled reactors manufactured by the Westinghouse Electric Corporation, similar to those installed in the *Nautilus*, under the Fiscal Year 1959 conversion program. She is undergoing her reactor conversion at the Electric Boat Division of the General Dynamics Corporation, Groton, Connecticut, at a cost of $20,000,000. Conversion work started on 13 Dec. 1958, lasting 11-13 months, and she recommissioned on 30 Sep. 1960.

SS(N) 571 NAUTILUS

Displacement:	2,975 tons *light*, 3,200 tons *standard* (*surface*), 3,747 tons (*submerged*)
Dimensions:	323⅔ (*o.a.*)×27⅔×22 (*mean*) feet
Tubes:	6—21 inch
Machinery:	Westinghouse pressurised water cooled reactor. Westinghouse geared turbines. 2 shafts. S.H.P.: 13,400=23 kts.
Range:	40,000 miles
Complement:	101 (12 officers. 89 men)

General Notes

Nautilus was engined by the Westinghouse Electric Corporation. She was commissioned on 21 Sep. 1954 and carried out her first trials on 17 Jan. 1955. Designed to travel faster under water than on the surface. Her prow is bulbous to obtain better underwater performance as compared with conventional submarines designed for top speed on surface and which have knife blade prows. Diving depth 700 feet. The world's first nuclear powered ship.

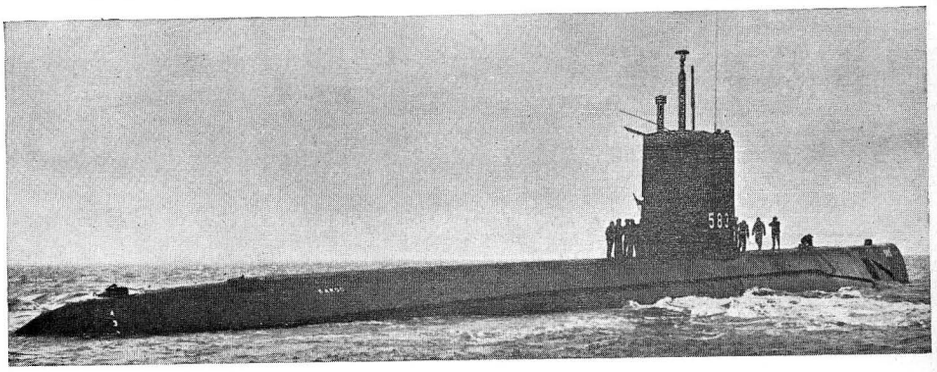
Engineering Notes

Nautilus has three engine room deck levels, propulsion by either atomic power, diesel or electric motors. She refuelled for the first time in 1957 after travelling 62,559 miles on the original core of enriched uranium. The second reactor core was pulled and replaced in 1959 during routine overhaul after steaming 91,324 miles, of which 78,885 was under water.

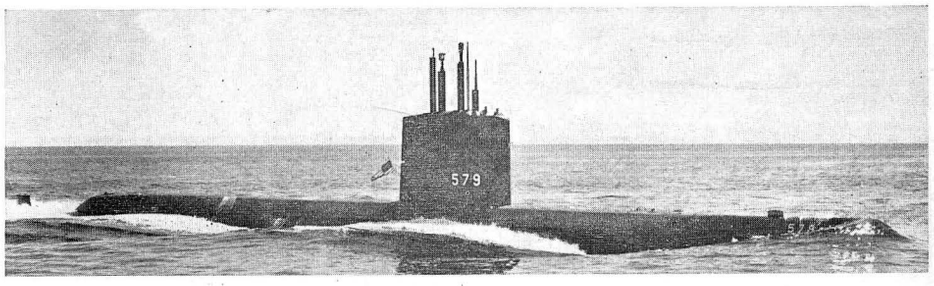
Endurance Notes

Nautilus made the first submerged crossing of the North Pole on 3 Aug. 1958. *Seawolf* broke the record when she remained submerged for 60 days in the Atlantic from 6 Aug. to 6 Oct. 1958, cruising 15,700 miles.

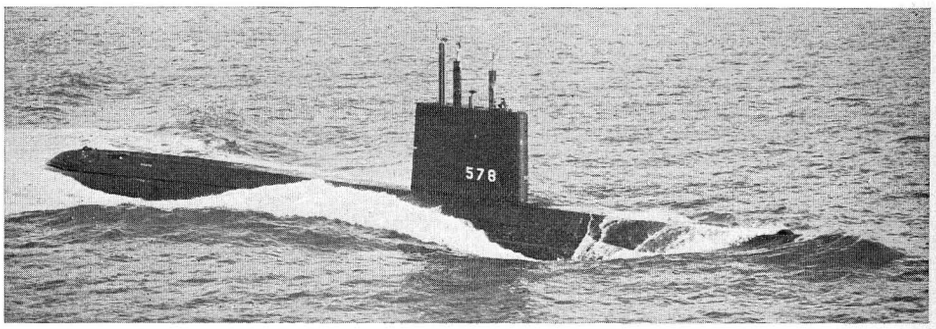
Name	*Laid down*	*Launched*	*Completed*
Nautilus	14 June 1952	21 Jan. 1954	22 Apr. 1955
Seawolf	15 Sep. 1953	21 July 1955	30 Mar 1957



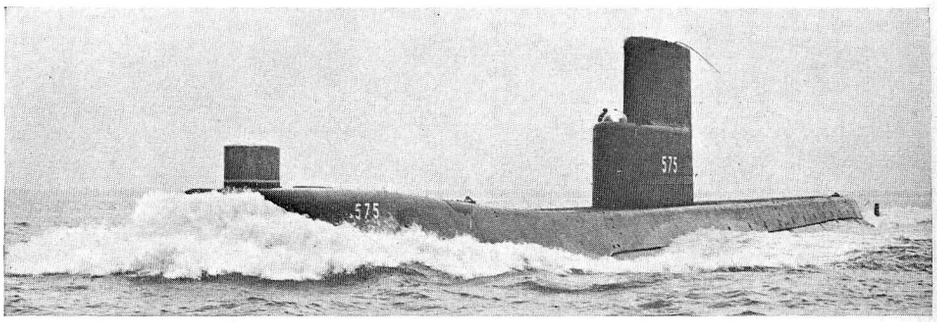
SARGO — 1959, *United States Navy, Official*



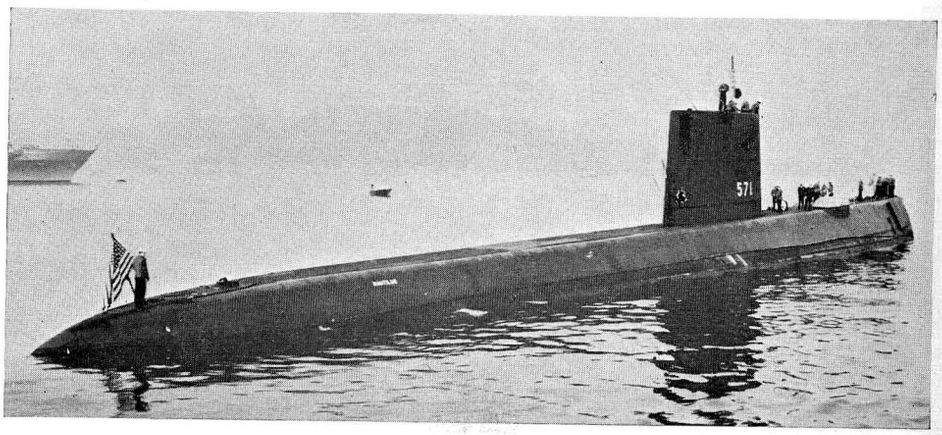
SWORDFISH — 1959, *United States Navy, Official*



SKATE — 1958, *Skyfotos*



SEAWOLF (at speed — 1957 *United States Navy, Official*



NAUTILUS — *Added* 1958, *Arcadian Photos*

Submarines—*continued*

High Speed Attack Submarines (SS)

3 Improved "Tang" Class

1 Portsmouth Naval Shipyard, New Hampshire
SS 580 BARBEL

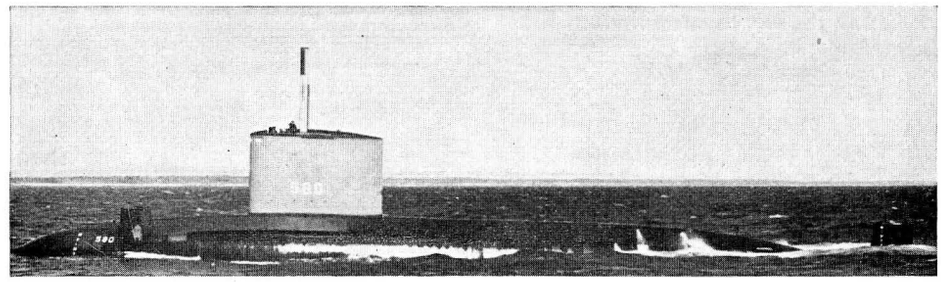
1 Ingalls Shipbuilding Corporation, Pascagoula, Mississippi
SS 581 BLUEBACK

1 New York Shipbuilding Corporation, Camden, New Jersey
SS 582 BONEFISH

Displacement:	1,690 tons *light*, 1,750 tons *standard*, 2,637 tons *submerged*
Dimensions:	219 × 29 × 19 feet
Machinery:	3 Fairbanks Morse diesels. Electric drive. 1 shaft. Speed: 15kts. *surface*, 25 kts. *submerged*
Complement:	78 (8 officers, 70 men)

Notes

Three conventional submarines provided under the 1956 Naval Appropriations. They have the "Albacore" type hull configuration. Diesel propulsion. Engined by Fairbanks Morse. Equipped with missile guidance gear. These are the last conventionally powered submarines to join the United States Fleet (*all subsequent submarines are to be nuclear powered*). They have greater underwater attack capabilities. *Barbel* was commissioned on 17 Jan. 1959, *Blueback* was delivered to the Navy on 3 June 1960.



BARBEL — 1959, *United States Navy, Official*

Name	*Laid down*	*Launched*	*Completed*
Barbel	18 May 1956	19 July 1958	1 Apr. 1959
Blueback	15 Apr. 1957	16 May 1959	3 June 1960
Bonefish	3 June 1957	22 Nov. 1958	11 July 1959

Guided Missile Submarines (SSG)

2 "G" Class

1 Mare Island Naval Shipyard — **SSG 574 GRAYBACK**

1 Portsmouth Naval Shipyard — **SSG 577 GROWLER**

Displacement:	*Grayback* 1,740 tons *light*, 2,287 tons *surface*, 3,638 tons *submerged*. *Growler* 1,620 tons *light*, 2,174 tons *surface*, (2,500 tons in diving trim), 3,387 tons *submerged*.
Dimensions:	*Grayback*: 322½ (*o.a.*) × 30 × 17½ (*mean*) feet. *Growler*: 317½ (*o.a*) × 27½ × 17 (*mean*) feet
Guided Missiles:	"Regulus"
Machinery:	3 Fairbanks Morse diesels. 2 shafts. S.H.P.: 3,100=20 kts. *surface*. Elliott electric motors=18 kts. *submerged*
Complement:	*Grayback*: 85 officers and men *Growler*: 96 (9 officers and 87 men

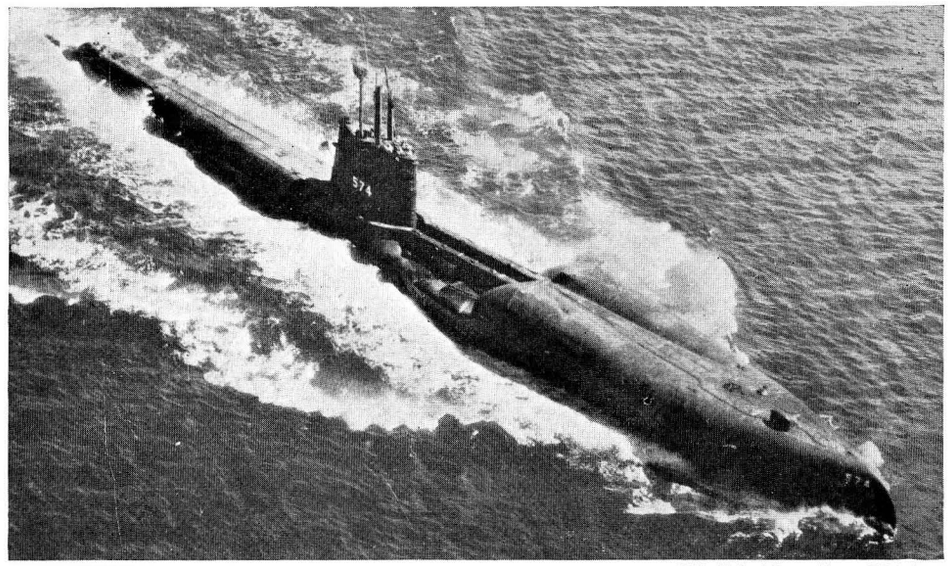
General Notes

Grayback, a new design attack submarine with streamlined Guppy snorkel equipment and a conventional engine of improved design, was ordered on 19 June 1952 and commissioned on 7 Mar. 1958. *Growler* was commissioned on 30 Aug. 1958. They were originally scheduled to be attack submarines, but they were changed to missile launching submarines after the start of construction. They will handle "Regulus I" guided missiles from twin cylinder shaped hangars faired into the upper forward hull.

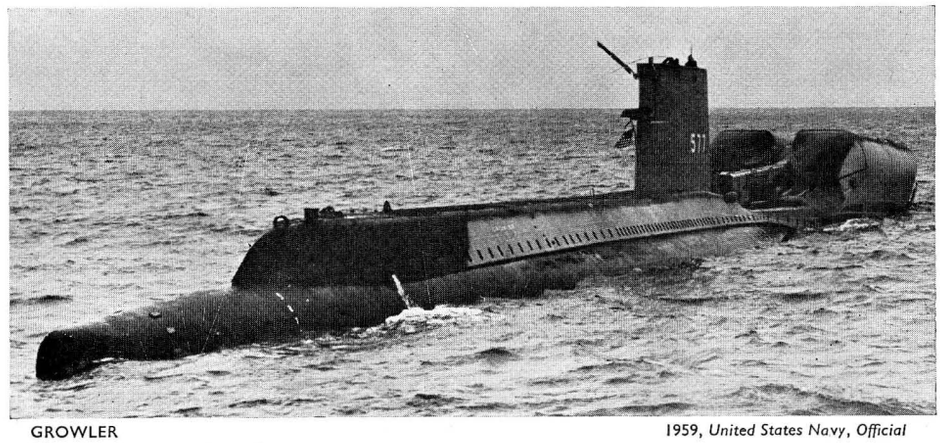
Operational Notes

Official statement: "*Grayback* is the Navy's first submarine built expressly with guided-missile capability. Other submarines have been converted with deck-top hangars to fire "Regulus," but *Grayback* is the first submarine built to carry and fire "Regulus." *Grayback* is one of the Navy's largest submarines. The "Regulus" missiles which she will carry are capable of striking more than 1,000 miles inland with nuclear warheads. Her missile capability is built in. Twin cylinder-shaped hangars, faired into the upper hull forward, will contain the missiles. Immediately aft of the hangars is the launching platform from which "Regulus" will be fired. The missile firings will be tests simulating the attacks submarines can make on inland enemy targets. The missile hangars give *Grayback* a slightly different hull conformation, an improvement over the present *Tang* class fast attack submarines and streamlined to assure high underwater speed. *Grayback* is conventionally-powered and equipped with high-capacity batteries. She has all the usual offensive capabilities of an attack submarine, including extensive anti-submarine warfare equipment. She will have performance characteristics equal to the most modern non-nuclear attack submarine. *Grayback* will roam the oceans of the world, ready to surface at any time and automatically slide the "Regulus" missile from a cell buried in her hull into firing position. Within moments after surfacing she will fire the missile, then dive immediately. Strong seas and winds and foul weather will not handicap the missile firings." (*Grayback* and *Growler* were to have handled "Regulus II" missiles, but the "Regulus II" project was cancelled for economy reasons.)

Grayback was built under the 1953 Fiscal Year program and *Growler* under the 1955 program. It was announced on 27 Feb. 1956 that they would be completed as guided missile submarines for launching "Regulus" surface-to-surface weapons.



GRAYBACK — 1959, *United States Navy, Official*



GROWLER — 1959, *United States Navy, Official*

Name	*Laid down*	*Launched*	*Completed*
Grayback	1 July 1954	2 July 1957	31 July 1958
Growler	15 Feb. 1955	5 Apr. 1958	15 Dec. 1958

High Speed Attack Submarine (SS)

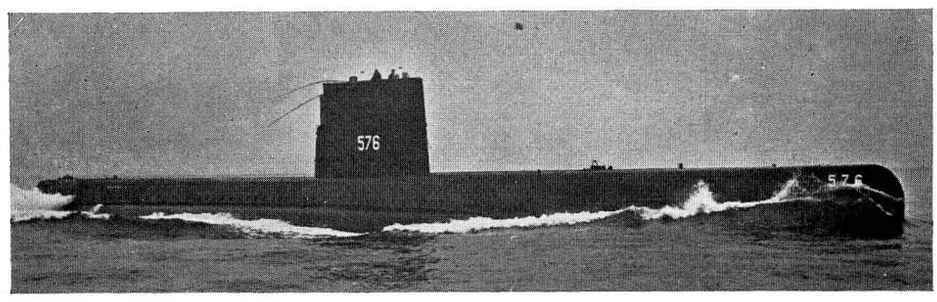
1 Improved "Tang" Class

1 Electric Boat Division, General Dynamics Corporation
SS
576 DARTER (28 May 1956)

Displacement:	1,622 tons *light*, 1,720 tons *surface*, 2,388 tons *submerged*
Dimensions:	268⁷/₁₂ (*o.a.*) × 27⅝ × 17 (*mean*) feet
Tubes:	21 inch
Machinery:	Fairbanks Morse diesels. 2 shafts. S.H.P.: 4,000=17 kts. (*surface*); Elliott electric motors=25 kts. (*submerged*)
Complement:	83

Notes

Darter, reported to be designed for significantly higher underwater speed than SSNs, operated from a central console adjacent to the sound proof diesel engine room, equipped with snorkel, laid down on 10 Nov. 1954, launched on 28 May 1956, and commissioned on 20 Oct. 1956. Officially described as the "quietest submarine of all time."



DARTER — 1958, *U.S. Navy, Official*

Submarines—*continued*

Radar Picket Submarines (SSR)

2 "Sailfish" Class

2 Portsmouth Navy Shipyard

SSR	SSR
572 SAILFISH	**573 SALMON**

Displacement:	1,990 tons *standard* 2,425 tons (*surface*), 3,168 tons *submerged*
Dimensions:	350½ (*o.a.*) × 29 × 16½ (*mean*) feet
Tubes:	6—21 inch (all forward). 12 torpedoes stowed
Machinery:	Fairbanks Morse diesels. 2 shafts. S.H.P.: 6,000=20·5 kts. (*surface*); Elliott electric motors=10 kts. (*submerged*)
Complement:	95

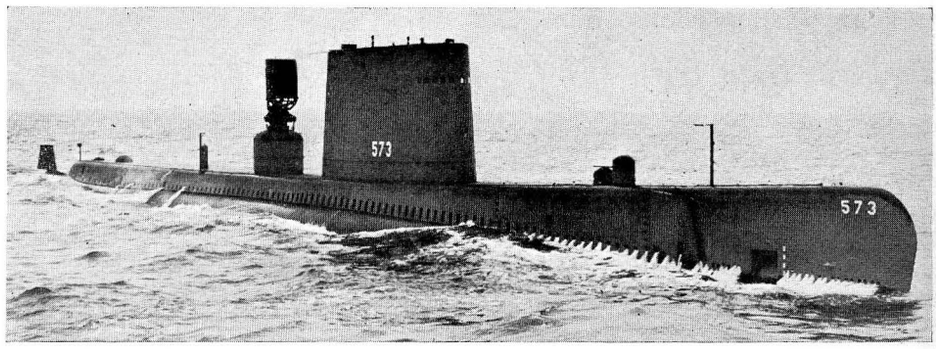
General Notes

Ordered on 27 Feb. 1952. Fitted with an air control centre. Commissioned 14 Apr. 1956 and 25 Aug. 1956, respectively.

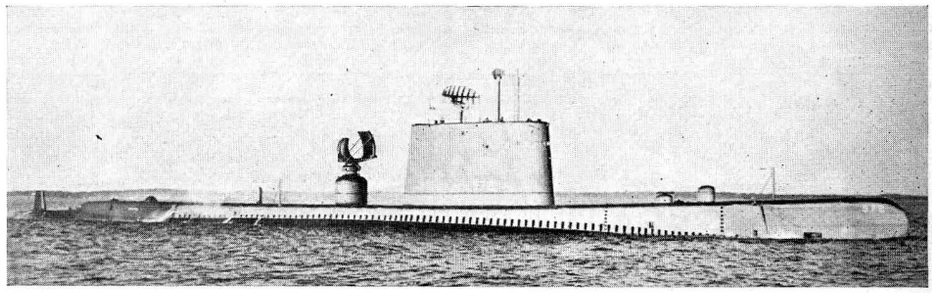
Conversion Notes

In 1959 *Salmon* was modified, at the expense of some search radar, to serve as a missile guidance submarine as well as a radar picket.

Name	*Laid down*	*Launched*	*Completed*
Sailfish	8 Dec. 1953	7 Sep. 1955	Sep. 1956
Salmon	10 Mar. 1954	25 Feb. 1956	Dec. 1956



SALMON — 1959, *United States Navy, Official*



SAILFISH — *Added* 1958, *U.S. Navy; Official*

High Speed Target Submarine (AGSS)

1 Experimental Prototype

AGSS
569 ALBACORE

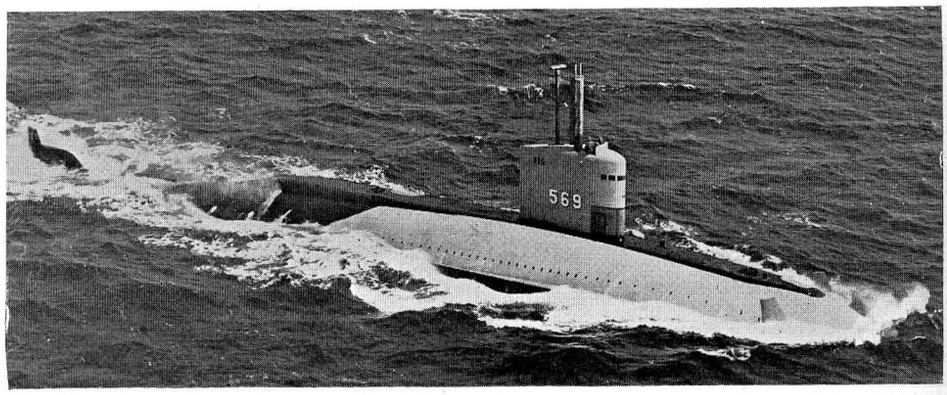
Displacement:	1,100 tons (*nominal*), 1,218 tons *standard*, 1,847 tons *submerged*
Dimensions:	203½ (*o.a.*) × 27½ × 18½ (*mean*) feet
Machinery:	2 General Motors diesels, radial. pancake type=25 kts. (*surface*); 1 Westinghouse propulsion motor. 1 Shaft. S.H.P.: 1,700=over 30 kts. (*submerged*) see *Conversion Notes*
Complement:	52 (4 officers and 48 men)

General Notes

High speed underwater target and experimental vessel. Built by Portsmouth Naval Shipyard. Laid down on 15 Mar. 1952, launched on 1 Aug. 1953, and completed on 5 Dec. 1953. Conventionally powered submarine of radical design with new hull form which makes her faster and more manoeuvrable than any other conventional submarine in the fleet. Officially described as a hydrodynamic test vehicle. Streamlined, whale-shaped without the naval flat-topped deck, conning tower modelled on a fish's dorsal fin.

Conversion Notes

Phase I (1953): cruciform stern.
Phase II (1956): open stern, plastic sonar bow.



ALBACORE — 1955, *U.S Navy, Official*

Phase III (1959): improved sonar system (DIMUS).
Phase IV (1961): Electric drive, contra-rotating motors and 2 propellers rotating about the same axis. A high capacity, long endurance silver zinc battery which will provide sufficient power to drive *Albacore* at 33 kts. submerged (official précis).

Ex-Submarine Hunter Killers

3 "Barracuda" Class

1 Electric Boat Co.	*2 Mare Island Naval Shipyard*
SST	**SS**
3 BARRACUDA (ex-*K1*)	**551 BASS** (ex-*K2*)
	552 BONITA (ex-*K3*)

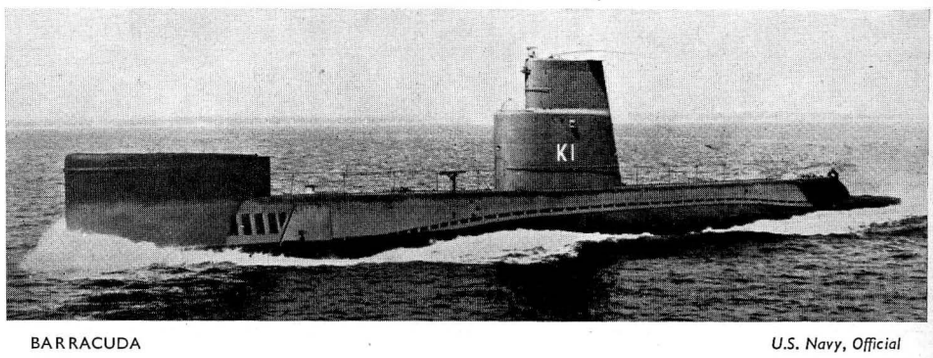
Displacement:	765 tons *standard*, 1,160 tons *submerged*
Dimensions:	196½ (*o.a.*) × 24½ × 14½ (*mean*) feet
Tubes:	4—21 inch
Machinery:	3 General Motors diesels. General Electric electric motors. 2 shafts. S.H.P.: 1,050=13 kts. *surface* and *submerged*
Complement:	47 (5 officers and 42 men)

General Notes

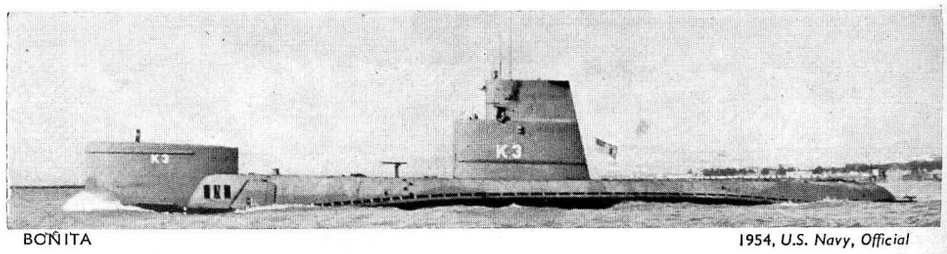
Medium size, "extremely quiet," and very handy design specifically built for A/S operations. Had letters and numbers instead of names until 15 Dec. 1955 when "B" names were substituted for "K" numbers. Have ungainly prow full of listening gear, newest electronic and sonar detection equipment, short hull, which makes them highly manoeuvrable and suitable for ambushing other submarines. Carry "target seeking" torpedoes.

In 1959 these submarines were considered unsuccessful as hunter killer craft. They lack speed, range and endurance. *Bass* and *Bonita* are out of commission, in reserve.

Name	*Laid down*	*Launched*	*Completed*
Barracuda	1 July 1949	2 Mar. 1951	10 Nov. 1951
Bass	23 Feb. 1950	2 May 1951	11 Jan. 1952
Bonita	17 Mar. 1950	21 June 1951	11 Feb. 1952



BARRACUDA — *U.S. Navy, Official*



BONITA — 1954, *U.S. Navy, Official*

Experimental Notes

Bonita was used as a test ship in the 1958 Atomic Weapons Tests from which only superficial damage was sustained.

Reclassification Notes

In 1959 the Nos. were changed: *Barracuda* from SSK 1 to SST 3; and *Bass* and *Bonita* from SSK 2, SSK 3 to SS 551, SS 552, respectively.

High Speed Attack Submarines (SS)
6 "Tang" Class

3 *Electric Boat Co., Groton*
SS
564 TRIGGER
566 TROUT
568 HARDER

3 *Portsmouth Naval Shipyard*
SS
563 TANG
565 WAHOO
567 GUDGEON

Displacement:	1,615 tons *standard*, 1,800 tons *surface*, 2,400 tons *submerged*
Dimensions:	278 (*o.a.*) × 27½ × 17 feet
Tubes:	8—21 inch (6 forward, 2 aft)
Machinery:	3 Fairbanks-Morse diesels. B.H.P.: 4,200=15 to 20 kts. (*surface*). Electric motors. H.P.: 3,200=18 kts. (*submerged*)
Oil fuel:	350 tons
Complement:	78 (*Tang*, *Wahoo* 82, *Gudgeon*, *Trigger* 83)

General Notes

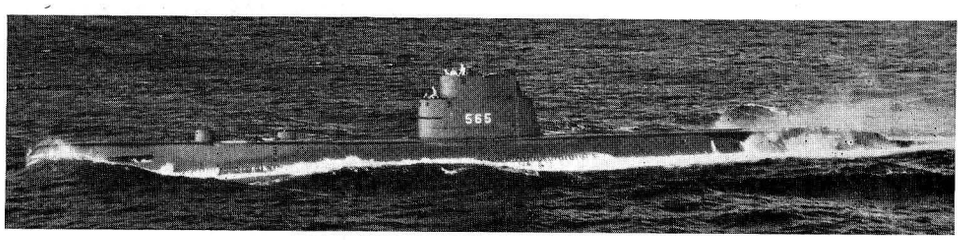
Embody various improvements based on war experience to give higher submerged speed, with a development of the Schnorkel breathing tubes. They are streamlined deep-diving vessels but have comparatively short hulls. *Trigger* was the first submarine of the post-war program to be laid down. *Tang* was the first of the new class to be completed (first large submarines to be constructed by the U.S. Navy since the Second World War). Reported to be most advanced in the world. Faster, more manoeuvrable and capable of more diversified employment than their predecessors of the wartime fleet type and the more recent Guppy-Schnorkel conversions. The hull is shorter than current fleet types, and this reduction in length is said to contribute to the underwater speed.

Gudgeon was the first United States submarine to circumnavigate the world during Sep. 1957-Feb. 1958.

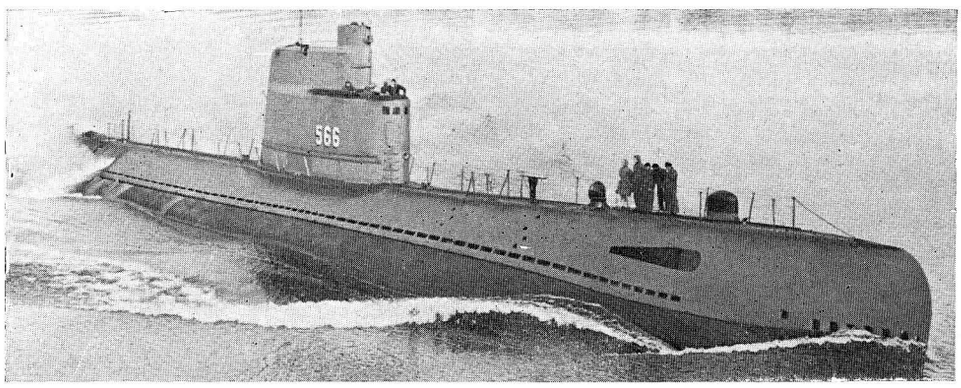
Engineering Notes

Tang, *Trigger*, *Trout* and *Wahoo* were originally powered by a compact radial type engine produced after five years of development work, comprising a 16-cylinder 2-cycle plant, mounted vertically with four rows of cylinders radially arranged. These new engines were only half the weight and approximately two-thirds the size of the engines previously available for use in submarines. They proved to be unsatisfactory and have been replaced by machinery similar to that in *Gudgeon* and *Harder* which have 3 Fairbanks-Morse high speed lightweight engines mounted horizontally.

The electric motors are Elliott in *Tang* and *Trigger*, General Electric in *Wahoo* and *Trout*, Westinghouse in *Gudgeon* and *Harder*.



WAHOO — 1960, *United States Navy, Official*



TROUT — 1955, *courtesy "Our Navy"*

Reconstruction Note

In 1957 *Tang*, *Trigger*, *Trout* and *Wahoo* were provided with an extra centre section, 9 feet long, to accommodate three new Fairbanks-Morse 1,400 B.H.P. "in-line" diesels to replace "pancake" type. The vessels were cut in halves, the sections inserted, and welded together again.

Photograph Notes

A photograph of *Trigerg* appears in the 1955-56 to 1959-60 editions.

Name	*Laid down*	*Launched*	*Completed*
Gudgeon	20 May 1950	11 June 1952	21 Nov. 1952
Harder	30 June 1950	3 Dec. 1951	19 Aug. 1952
Tang	18 Apr. 1949	19 June 1951	25 Oct. 1951
Trigger	24 Feb. 1949	14 June 1951	31 Mar. 1952
Trout	1 Dec. 1949	21 Aug. 1951	27 June 1952
Wahoo	24 Oct. 1949	16 Oct. 1951	30 May 1952

Submarines (SS)
28 "Tench" Class

4 *Boston Naval Shipyard*
SS
G 522 AMBERJACK (15 Dec. 1944)
G 523 GRAMPUS (15 Dec. 1944)
G 525 GRENADIER (15 Dec. 1944)
G 524 PICKEREL (15 Dec. 1944)

2 *Cramp S.B. Co.*
G 425 TRUMPETFISH (19 Feb. 1944)
G 426 TUSK (8 July 1945)

1 *Electric Boat Co.*
435 CORSAIR (19 Apr. 1946) **AG**

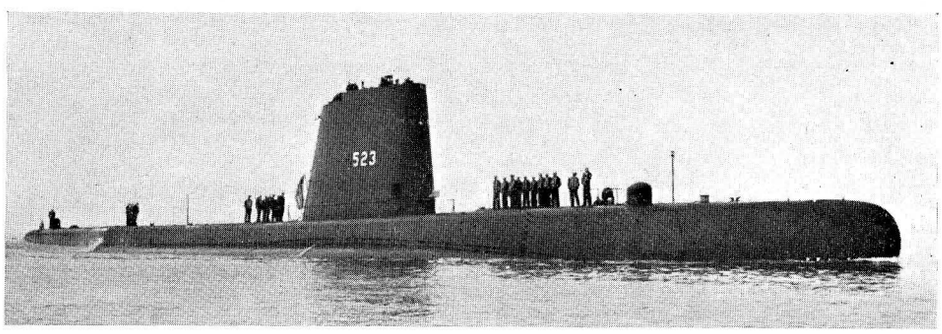
21 *Portsmouth Naval Shipyard*
SS
475 ARGONAUT (1 Oct. 1944)
477 CONGER (17 Oct. 1944)
G 478 CUTLASS (5 Nov. 1944)
479 DIABLO (30 Nov. 1944)
482 IREX (26 Jan. 1945)
480 MEDREGAL (15 Dec. 1944)
G 484 ODAX (10 Apr. 1945)
G 486 POMODON (6 Dec. 1945)
G 424 QUILLBACK (ex-*Trembler*, 1 Oct. 1944)
G 487 REMORA (7 Dec. 1945)
476 RUNNER (17 Oct. 1944)
488 SARDA (24 Aug. 1945)
G 483 SEA LEOPARD (2 Mar. 1945)
G 485 SIRAGO (11 May, 1945)
G 417 TENCH (7 July 1944)
G 418 THORNBACK (7 July 1944)
G 420 TIRANTE (9 Aug. 1944)
422 TORO (19 Aug. 1944)
423 TORSK (6 Sep. 1944)
G 421 TRUTTA (18 Aug. 1944)
G 490 VOLADOR (17 Jan. 1946)

Displacement:	1,570 tons *standard*, 1,800 tons *surface* (2,500 tons *submerged*)
Dimensions:	311¾ (*o.a.*), Guppies 306 (length varies) × 27½ × 17 (*surface*) feet
Guns:	1—5 inch, 25 cal., 2—40 mm. AA. (Guppies, none)
Tubes:	10—21 inch
Machinery:	B.H.P.: 6,500=20 kts. (*surface*). S.H.P.: 4,610=10 kts. (*submerged*). Guppies 15 kts.
Oil fuel:	300 tons
Radius:	14,000 miles at 10 kts.
Complement:	78 to 85

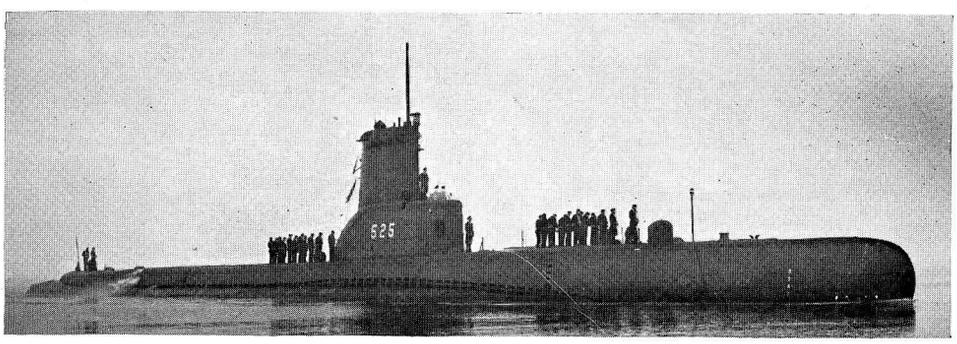
General Notes

Enlarged and improved version of *Balao* design, able to dive to 100 fathoms. Nearly all fitted with a development of the German Schnorkel breathing apparatus. *Pickerel*, commissioned 4 Apr. 1949, made a 5,200 miles run from Hong Kong to Pearl Harbour in 21 days without surfacing in 1950. In 1952 she surfaced in tests at a 48 degree angle from a depth of 150 feet, one of the steepest ever attempted. Both tests made to evaluate the capabilities and design characteristics of "Guppy" type submarines. *Requin*, *Spinax* and *Tigrone* converted to Radar Picket Submarines (see later page). *Grenadier* commissioned 10 Feb. 1951

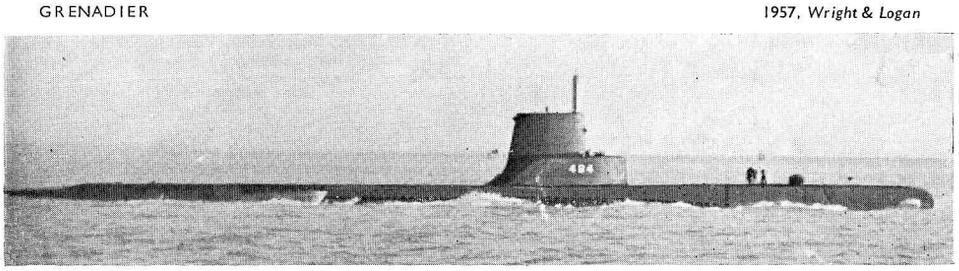
93 more of this class were cancelled during 1944-45, including *Chicolar*, *Comber*, *Dorado*, *Grayling*, *Needlefish* (493), *Pompano*, *Sculpin*, *Tiburin*, *Wahoo*.



GRAMPUS — 1958, *Wright & Logan*



GRENADIER — 1957, *Wright & Logan*



ODAX — 1957, *courtesy A. F. Nicholas*

Experimental Notes

Partly completed *Turbot* (SS 427) is being used for sound, vibration and internal combustion tests by Navy Engineering Experimental Station, Annapolis; and partly constructed *Ulua* (SS 428) was used for tests in connection with the new atomic powered submarines. A new 52 foot engine room was installed in *Ulua* in 1957 for testing purposes. She was used in underwater explosion research, and sold for scrap in 1958.

G Eighteen units marked G are of the new "Guppy" (Greater Underwater Propulsive Power) design equipped with the latest devices. *Argonaut*, *Irex*, *Medregal*, *Runner*, *Torsk* carry snorkels but are not Guppy conversions.

AG *Corsair* was reclassified as AGSS on 1 Apr. 1960.

The construction of *Unicorn* and *Walrus* was suspended after the Second World War. They were stricken from the Navy List on 9 June 1958 and scrapped.

Submarines (SS)

80 "Balao" Class

9 Cramp S.B. Co.

SS
292 DEVILFISH (30 May 1943)
293 DRAGONET (18 Apr. 1943)
295 HACKLEBACK (30 May 1943)
T 297 LING (18 Aug. 1943)
T 298 LIONFISH (7 Nov. 1943)
300 MORAY (14 May 1944)
T 301 RONCADOR (14 May 1944)
302 SABALO (4 June 1944)
303 SABLEFISH (4 June 1944)

28 Electric Boat Co.

311 ARCHERFISH (29 May 1943) **AG**
309 ASPRO (ex-*Acedia*, 7 Apr. 1943) **AG**
310 BATFISH (ex-*Acoupa*, 3 May 1943)
319 BECUNA (30 Jan. 1944)
G 321 BESUGO (27 Feb. 1944)
G 322 BLACKFIN (12 Mar. 1944)
G 324 BLENNY (9 Apr. 1944)
331 BUGARA (2 July 1944)
G 334 CABEZON (27 Aug. 1944) **T**
G 323 CAIMAN (ex-*Blanquillo*, 30 Mar. 1944)
336 CAPITANE (1 Oct. 1944) **AG**
337 CARBONERO (15 Oct. 1944)
338 CARP (12 Nov. 1944)
G 339 CATFISH (19 Nov. 1944)
328 CHARR (ex-*Bocaccio*, 28 May 1944)
G 341 CHIVO (14 Jan. 1945)
G 342 CHOPPER (14 Feb. 1945)
G 343 CLAMAGORE (23 Feb. 1945)
G 344 COBBLER (1 Apr. 1945)
G 346 CORPORAL (10 June 1945)
G 347 CUBERA (17 June 1945)
348 CUSK (28 July 1945)
T 335 DENTUDA (10 Sep. 1944)
G 349 DIODON (10 Sep. 1945)
G 350 DOGFISH (27 Oct. 1945)
G 340 ENTEMEDOR (ex-*Chiswick*, 17 Dec. 1944)
G 351 GREENFISH (ex-*Doncella*, 21 Dec. 1945)
G 352 HALFBEAK (ex-*Dory*, 19 Feb. 1946)

4 Manitowoc S.B. Co.

G 365 HARDHEAD (12 Dec. 1943)
G 368 JALLAO (12 Mar. 1944)
T 374 LOGGERHEAD (13 Aug. 1944)
G 377 MENHADEN (20 Dec. 1944)

6 Mare Island Navy Yard

304 SEAHORSE (9 Jan. 1943)
411 SPADEFISH (8 Jan. 1943)
413 SPOT (20 May 1944)
414 SPRINGER (3 Aug. 1944)
G 416 TIRU (16 Sep. 1947)
T 412 TREPANG (23 Mar. 1944)

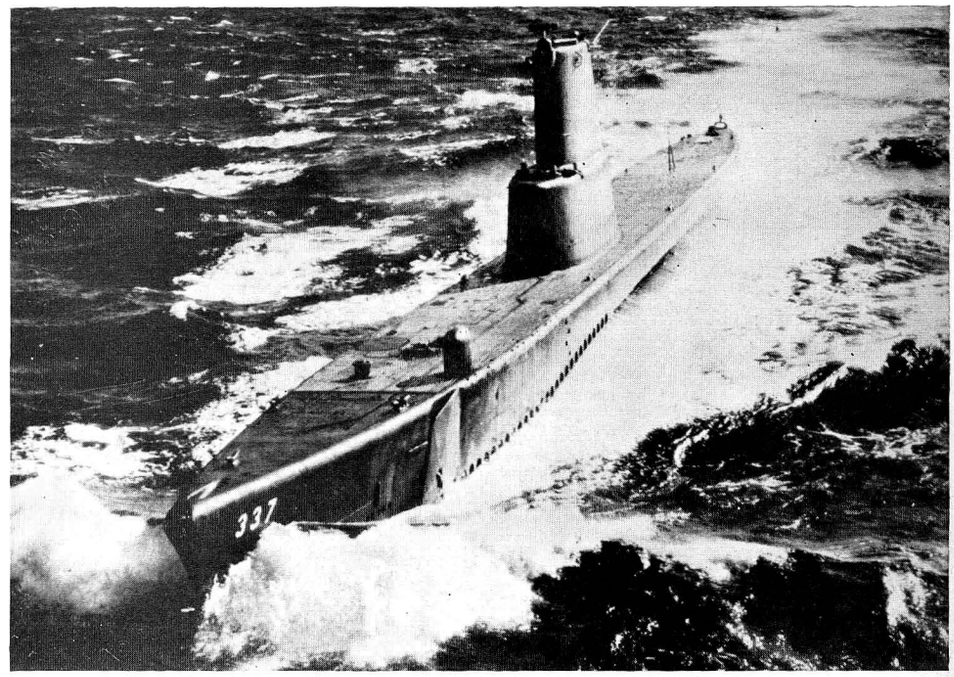
33 Portsmouth Navy Yard

403 **ATULE** (6 Mar. 1944)
285 BALAO (Nov. 1942) **AG**
G 385 BANG (30 Aug. 1943)
T 286 BILLFISH (13 Nov. 1942)
T 287 BOWEN (7 Dec. 1943)
T 288 CABRILLA (24 Dec. 1942) **AG**
291 CREVALE (22 Feb. 1943)
383 PAMPANITO (12 July 1943)
382 PICUDA (ex-*Obisto*, 12 July 1943)
387 PINTADO (15 Sep. 1943)
388 PIPEFISH (12 Oct 1943)
409 PIPER (ex-*Awa*, 26 June 1944)
389 PIRANHA (27 Oct. 1943)
390 PLAICE (15 Nov. 1943)
G 391 POMFRET (27 Oct. 1943)
393 QUEENFISH (30 Nov. 1943) **AG**
394 RAZORBACK (27 Jan. 1944)
395 REDFISH (27 Jan. 1944) **AG**
G 396 RONQUIL (27 Jan. 1944)
381 SAND LANCE (ex-*Orca*, ex-*Orjanco*, 25 June 1943)
397 SCABBARDFISH (27 Jan. 1944)
399 SEA CAT (21 Feb. 1944)
400 SEA DEVIL (28 Feb. 1944) **AG**
T 401 SEA DOG (28 Mar. 1944)
G 402 SEA FOX (28 Mar. 1944)
405 SEA OWL (7 May 1944) SSK
G 406 SEA POACHER (20 May 1944)
407 SEA ROBIN (25 May 1944)
398 SEGUNDO (5 Feb. 1944)
408 SENNET (6 June 1944)
404 SPIKEFISH (ex-*Shiner*, 26 Apr. 1944)
392 STERLET (27 Oct. 1943)
G 410 THREADFIN (ex-*Sole*, 26 June 1944)

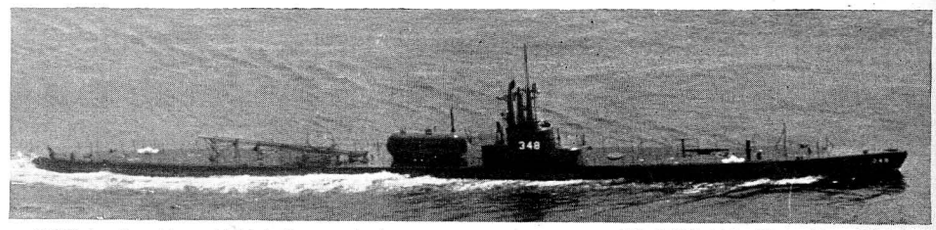
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet (Guppy conversions 309 (*o.a.*) feet, but length varies) see *FRAM Notes*
Guns:	Mostly 1 or 2—5 inch, 25 cal., 2—40 mm. AA. Armament varies (Guppies, no guns)
Tubes:	10—21 inch (6 bow, 4 stern), 24 torpedoes
Machinery:	G.M. or Fairbanks-Morse 2-stroke diesels. B.H.P.: 6,500=20 kts. (*surface*). S.H.P.: 4,610=10 kts. (*submerged*). *Dogfish*, submerged speed, 17·25 kts.
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85 (78 to 82 in peace)

General Notes

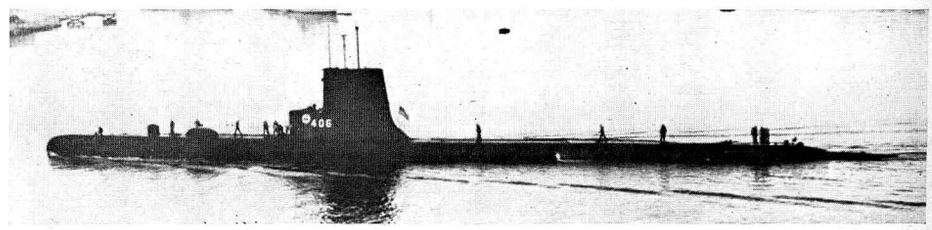
In order to facilitate rapid building, all were of the same general type as *Gato* class, and of all-welded construction. Average time of construction during war was reduced to about nine months. High standard of accommodation, including separate messing and sleeping compartments. War losses: *Barbel*, *Bullhead*, *Capelin*, *Cisco*, *Escolar*, *Golet*, *Kete*, *Lagarto*, *Shark*, *Tang*. 16 cancelled: *Dugong*, *Eel*, *Espada*, *Garloppa*, *Gauppa*, *Goldring*, *Jawfish*, *Needlefish* (379), *Nerka*, *Ono*, *Turbot*, *Ulua*, *Vandance* (431), *Whitefish*, *Whiting*, *Wolffish*. In addition *Apogan*, *Pilotfish* and *Skate* were scrapped after being employed as atom bomb targets at Bikini 1946. *Dentuda* and *Parche* of this class are non-operational submarines assigned to Naval Reserve Training duties. *Sealion* and *Perch* fitted to carry troops; and *Burrfish* modified for radar picket duties with reduced armament; *Guavina* converted to oiler *Tiru* altered during construction for higher submerged speed.



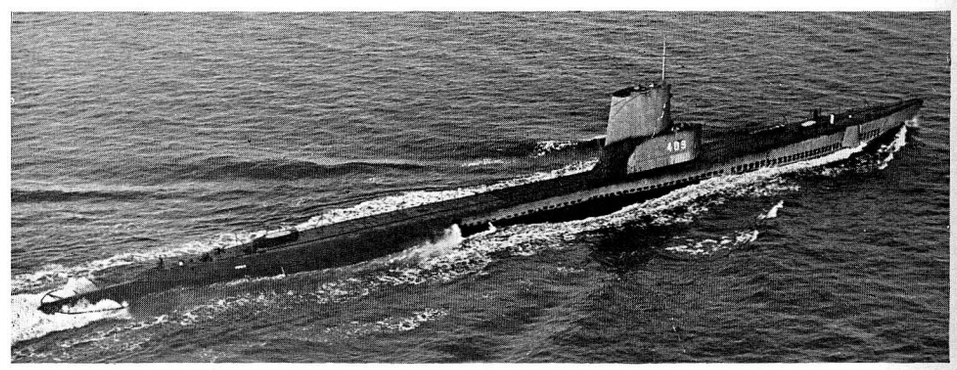
CARBONERO (after conversion from SSG to SS) — 1960, *courtesy Mr. W. H. Davis*



CUSK (equipped for guided missile operation) — *Added* 1959, *United States Navy, Official*



SEA POACHER — 1958, *A. & J. Pavia*



PIPER — *Added* 1957, *U.S. Navy, Official*

Baya equipped for electronic experiments (see later pages). *Cochino* sank off the northern coast of Norway, 26 Aug. 1949, *Spikefish* has made a record of 10,000 dives (Mar. 1960). The construction of *Lancetfish* was suspended at the end of the Second World War; she was stricken from the Navy List on 9 June 1958 and scrapped.

G 29 unites converted into "Guppies." **T** 10 training units. **AG** 8 units reclassified AG(SS) in 1960. *Carbonero* and *Cusk* converted to SSG, have since been reclassified as SS (see photographs above). *Barbero* was equipped to carry cargo and reclassified ASSA, but was subsequently converted to a guided missile submarine, SSG see later page). *Bergall*, *Bugara*, *Carbonero*, *Carp*, *Charr*, *Cusk*, *Piper*, *Sabalo*, *Sea Cat*, *Sea Owl*, *Segunda*, *Sennet*, *Sterlet*, carry snorkels but are not true "Guppies." *Sea Poacher* has a bow similar to that of SSK but is not fitted as SSK.

FRAM Notes

During her FRAM overhaul *Tiru* had an additional 12-ft. section added and the conning tower was extended by 5 ft. to provide for an attack centre. Fitted with non-corrodible laminated glass plastic "sail" (conning tower) and superstructure. The overhaul included increased fuel capacity, extra berthing accommodation, advanced electric systems, greater communication capabilities, and the ability to fire new advanced weapons. *Tiru* was the first submarine to receive a FRAM overhaul (at Pearl Harbour Naval Shipyard). Eventually 35 submarines will receive the FRAM overhaul of 8 months.

Transfer Notes

Blower (325), *Blueback* (326), *Boarfish* (327), *Chub* (329), *Brill* (330), *Bumper* (333) were transferred to Turkish Navy, and *Hawksbill* and *Icefish* (Guppies) were transferred to Royal Netherlands Navy in 1953 (on loan for five years). *Bergall*, SS 320, was transferred to Turkey in Sep. 1958, and *Mapiro*, SS 376, and *Mero*, SS 378, were transferred to Turkey in 1960. *Lizardfish*, SS 373, was loaned to Italy in Jan. 1960. *Kraken*, SS 370, was loaned to Spain in Oct. 1959. *Tilefish*, SS 307, was sold to Venezuela in 1960. *Lamprey*, SS 372, was transferred to Argentina at San Francisco on 21 July 1960, and *Macabi*, SS 375, was aiso transferred to Argentina. The loan of a submarine to Canada in 1960 for five years, has been authorised.

Recent Loss

Stickleback sank off Pearl Harbour, after being rammed by the detroyer escort *Silverstein* during manoeuvres, on 29 May 1958.

Recent Disposals

Parche, SS 384, is being disposed of.

Submarines—*continued*

Submarines (SS)

7 "Gato" Class

4 Electric Boat Co.
CERO
COBIA
COD
HAKE

1 Mare Island Navy Yard
SILVERSIDES

1 Portsmouth Navy Yard
DRUM

1 Manitowac S.B. Co.
PETO

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾×27×15 feet
Guns:	Vary 1—3 or 5 inch, 50—25 cal., d.p., 2—20 mm. AA.; but some, including *Finback*, had 2—5 inch, 25 cal., 2—40 mm. AA.
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500 =21 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*). Have 2 engine rooms instead of 1 as in previous class, to reduce size of compartments
Oil fuel:	300 tons
Radius:	10,000 miles at 10 kts.
Complement:	85

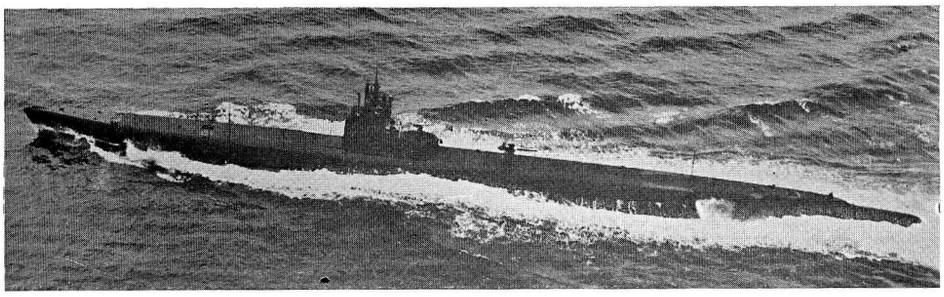
General Notes

Ordered under the 1939-41 Programs. War losses: *Albacore*, *Amberjack*, *Bonefish*, *Corvina*, *Darter*, *Dorado*, *Flier*, *Growler*, *Grunion*, *Harder*, *Herring*, *Robalo*, *Runner*, *Scamp*, *Scorpion*, *Snook*, *Trigger*, *Tullibee*, *Wahoo*. All the remaining boats of this class have been assigned to training duties with Naval Reserve units;.

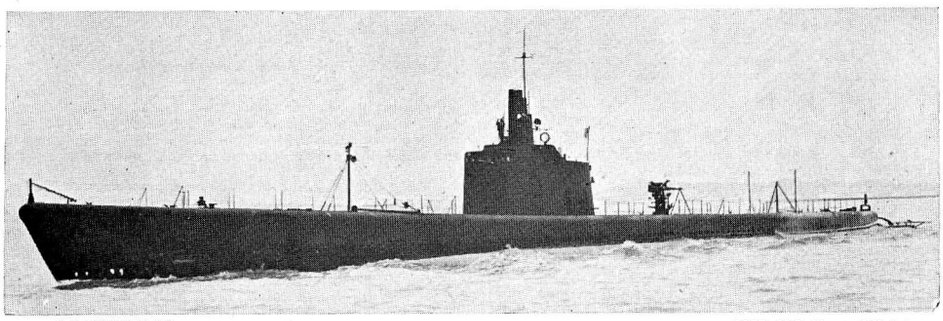
Conversion Notes

Grouper was converted to a large submarine hunter-killer (SSK) in 1950 and *Angler*, *Bashaw*, *Bluegill*, *Bream*, *Cavalla* and *Croaker* were similarly converted to anti-submarine submarines (SSK) in 1951-53. *Pompom*, *Rasher*, *Raton*, *Ray*, *Redfin* and *Rock* were converted to Radar Picket Submarines (SSR); and *Flying Fish* (scrapped in 1959) was converted to an experimental submarine (AGSS). *Tunny* was converted to a Guided Missile Submarine (SSG) in 1953.

No.	Name	Laid down	Launched	Completed
224	*Cod*	21 July 1942	21 Mar. 1943	21 June 1943
225	*Cero*	24 Aug. 1942	4 Apr. 1943	3 July 1943
228	*Drum*	11 Sep. 1940	12 May 1941	23 Dec. 1941
236	*Silversides*	4 Nov. 1940	26 Aug. 1941	15 Dec. 1942
245	*Cobia*	17 Mar. 1943	28 Nov. 1943	28 Mar. 1944
256	*Hake*	1 Nov. 1941	17 July 1942	30 Oct. 1942
265	*Peto*	18 June 1941	30 Mar. 1942	21 Nov. 1943



HAKE — *U.S. Navy, Officia*



SILVERSIDES — 1955, *U.S. Navy, Official*

Transfer Notes

In 1954 *Barb*, SS 202, and *Dace*, SS 247, were transferred to Italy, and *Guittaro*, SS 363, and *Hammerhead*, SS 364, were transferred to Turkey (loans extended for five years in 1959). In late August 1955 *Mingo*, SS 261, was transferred to Japan on loan for five years. *Muskallunge* and *Paddle* were loaned to Brazil in Jan. 1957. *Jack* and *Lapon* were loaned to Greece in 1957 (*Jack* transferred on 21 Apr. 1958, *Lapon* transferred on 8 Aug. 1957). *Flounder* and *Gabilan* were to have been transferred to Argentina in 1960.

Recent Disposals

Blackfish, SS 221, *Finback*, SS 230, *Gunnel*, SS 253, *Haddo*, SS 255, *Pogy*, SS 266, and *Tinosa*, SS 283, were stricken from the Navy List in early 1959. (*Tinosa* is employed for training in submarine salvage operations in the Hawaiian Islands).

Bluefish, SS 222, *Flasher*, SS 249, *Flounder*, SS 251, and *Gabilan*, SS 252, were stricken in late 1959.

Gato, SS 212, *Greenling*, SS 213, *Guardfish*, SS 217, *Haddock*, SS 231, *Kingfish*, SS 234, *Shad*, SS 235, *Whale*, SS 239, *Gurnard*, SS 254, *Hoe*, SS 258, *Pargo*, SS 264, *Puffer*, SS 268, *Sawfish*, SS 276, *Steelhead*, SS 280, and *Sunfish*, SS 281, were stricken in 1960. Most of the surviving units may also be disposed of in the near future.

Ex-Submarine Hunter Killers

(Large Type) 6 SS and 1 AGSS

7 Converted "Gato" Class

7 Electric Boat Co.

SS	SS	SS
240 ANGLER	**242 BLUEGILL**	**244 CAVALLA**
241 BASHAW	**243 BREAM**	**246 CROAKER**

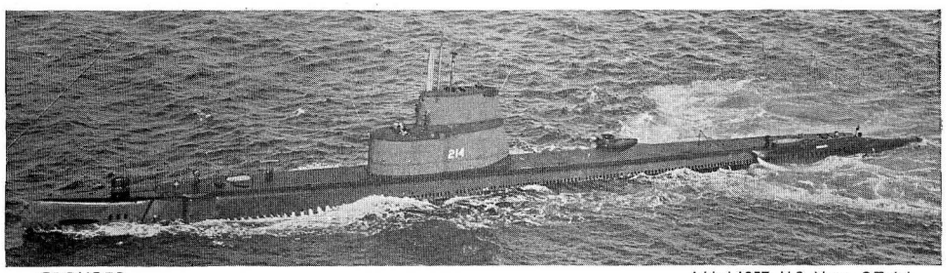
AGSS 214 GROUPER

Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½×27×15 feet
Machinery:	Diesels. B.H.P.: 6.500=21 kts. (*surface*). Electric motors, H.P.: 2,750=15 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	10,000 miles at 10 kts.
Complement:	80

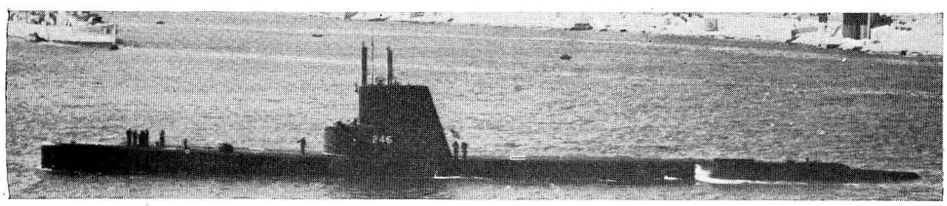
Name	Laid down	Launched	Completed
Angler	9 Nov. 1942	4 July 1943	1 Oct. 1943
Bashaw	4 Dec. 1942	25 July 1943	25 Oct. 1943
Bluegill	17 Dec. 1942	8 Aug. 1943	11 Nov. 1943
Bream	5 Feb. 1943	17 Oct. 1943	24 Jan. 1944
Cavalla	4 Mar. 1943	14 Nov. 1943	29 Feb. 1944
Croaker	1 Apr. 1943	19 Dec. 1943	21 Apr. 1944
Grouper	28 Dec. 1940	27 Oct. 1941	12 Feb. 1942

General Notes

Originally completed as units of the "Gato" class, see photos above. *Grouper* was converted and redesignated SSK (Large) in 1950, remainder in 1951-53. Contract for conversion of *Angler* and *Cavalla* was awarded to Electric Boat Co., Groton, Connecticut in Mar. 1952. *Bashaw* commissioned in Apr. 1953.



GROUPER — *Added* 1957, *U.S. Navy, Official*



CROAKER — 1956, *A. & J. Pavia*

Reclassification Notes

Grouper was again reclassified from SSK 214 to AG(SS) 214 on 21 June 1958. She is to carry out experiments for the Underwater Sound Laboratory. *Angler*, *Bashaw*, *Bluegill*, *Bream*, *Cavalla* and *Croaker* were reclassified from SSK to SS on 15 Aug. 1959.

Experimental Submarines (AGSS)

2 Converted "Balao" Class

AGSS 318 BAYA — **AGSS 299 MANTA**

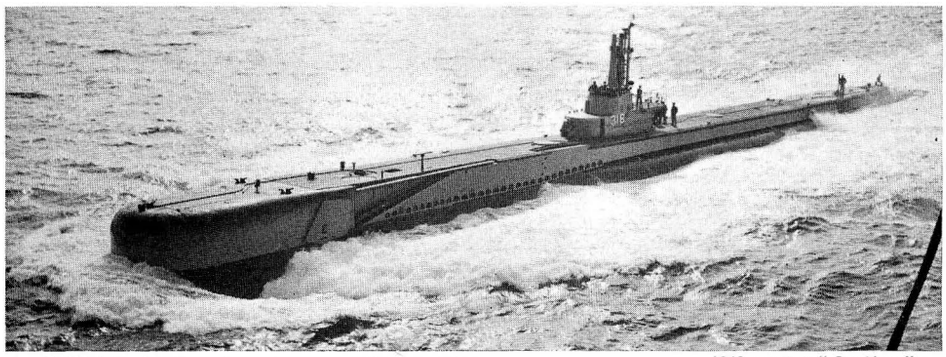
Name:	Baya	Manta
Builders:	Electric Boat Div., Groton	Cramp Shipbuilding Co.
Laid down:	8 Apr. 1943	15 Nov. 1942
Launched:	2 Jan. 1944	7 Nov. 1943
Completed:	20 May 1945	20 Jan. 1945
Displacement:	1,526 tons *standard*, 1,900 tons *surface* (2,625 ton *ssubmerged*)	*Baya*
Dimensions:	311½ (*o.a.*), *Baya* 334¾ (*o.a.*)×27×17 feet (see *Reconstruction Notes*)	
Machinery:	Diesels. B.H.P.: 6,500=20 kts. *surface*; H.P.: 2,750=15 kts. *submerged*	
Oil fuel:	300 tons	
Radius:	12,000 miles at 10 kts.	
Complement:	78	

General Notes

Were of "Balao" class before conversion. Employed experimentally. *Baya* was converted to a laboratory submarine for electronic experiments and *Manta* to a target submarine, the torpedo tubes and appendages being rendered inoperative. No guns. *Manta* is assigned to Naval Reserve training.

New Construction

An auxiliary submarine (deep diving) AGSS with single screw, diesel-electric, battery system, and single torpedo tube, for experimental purposes, was authorised under the 1961 program.



BAYA (round prow pushes water away at high speeds) — 1960, *courtesy "Our Navy"*

Reconstruction Notes

In 1958-59 *Baya* was cut in two at the San Francisco Naval Shipyard and a 23-ft. section inserted amidships between the forward torpedo room and the forward battery room. She was also fitted with a bigger and blunter bow to house new electronic gear, two booms which act as sonar attennae when extended, a mushroom anchor installed in the bottom of the submarine in a recess built into the hull, and living quarters for 12 reasearch laboratory scientists. She is fitted with a LORAD anti-submarine detection system (long range). In 1960 she was assigned to the operational test and evaluation force.

Submarines—*continued*

Ex-Radar Picket Submarines

3 Converted "Tench" Class

3 *Portsmouth Naval Shipyard*

SS
481 REQUIN (1 Jan. 1945)
489 SPINAX (20 Nov. 1945)

SS
419 TIGRONE (20 July 1944)

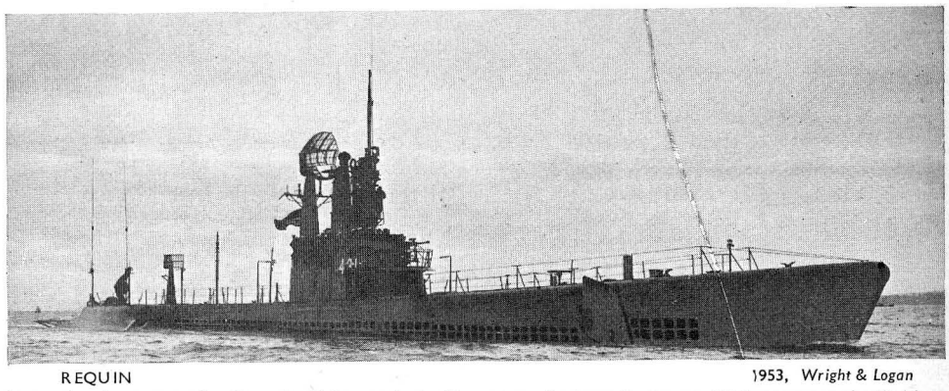
Displacement:	1,570 tons *standard*, 18,000 tons *surface* (2,500 tons *submerged*)
Dimensions:	312 (*o.a.*) × 27 × 17 feet
Guns:	1—40 mm. AA.
Tubes:	6—21 inch forward, stern tubes removed
Machinery:	Diesels. B.H.P.: 6,500=20 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	14,000 miles at 10 kts.
Complement:	80

Notes

Before conversion into Radar Picket Submarines, SSR, these vessels were conventional fleet submarines of the "Tench" class, see earlier page. *Spinax* was laid down on 14 May 1945. *Tigrone* was completed on 21 Feb. 1949. All have reduced armament (1—40 mm.). Units vary in detail Stern torpedo tubes removed. In 1959 the *Requin* and *Spinax* had their big radar antennae and complicated conning tower and air-control centre removed and they were fitted with a streamlined conning tower. All three were reclassified from SSR to SS on 15 Aug. 1959.

Photograph Notes

Port broadside view of *Tigrone* in the 1957-58 edition.



REQUIN — 1953, *Wright & Logan*

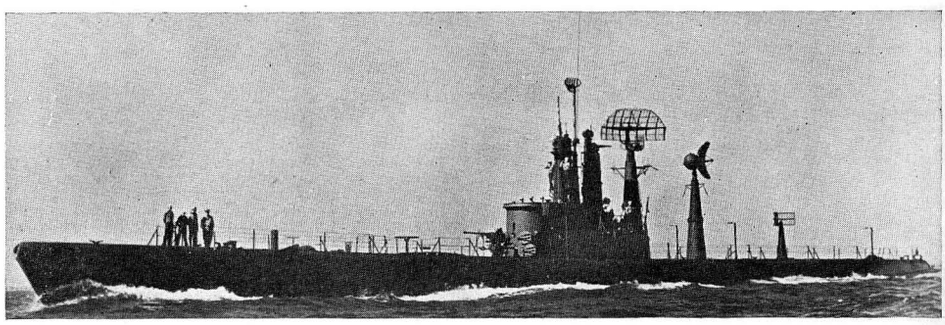
1 Converted "Balao" Class

SSR
312 BURRFISH (ex-*Amillo*)

Builders:	Electric Boat Co., Groton
Launched:	18 June 1943
Completed:	14 Sept. 1943
Displacement:	1,526 tons *standard*, 1,800 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½ × 27 × 17 feet
Guns:	1—40 mm. AA.
Tubes:	6—21 inch
Machinery:	Diesels. B.H.P.: 6,500=20 kts. (*surface*). Electric motors. H.P. 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	78

Notes

This submarine is scheduled to be loaned to the Royal Canadian Navy in Mar. 1961 (to be renamed *Grilse*).



BURRFISH — 1953, *U.S. Navy, Official*

4 Converted "Gato" Class

4 *Manitowoc S.B. Co.*

AGSS
269 RASHER
270 RATON
274 ROCK

SS
272 REDFIN

Displacement:	1,750 tons *standard*, 1,800 tons *surface* (2,500 tons *submerged*)
Dimensions:	343 × 27 × 17 feet
Machinery:	G.M. 2-stroke diesels. B.H.P.: 6,500 =21 kts. (*surface*). Electric motors. H.P.: 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85

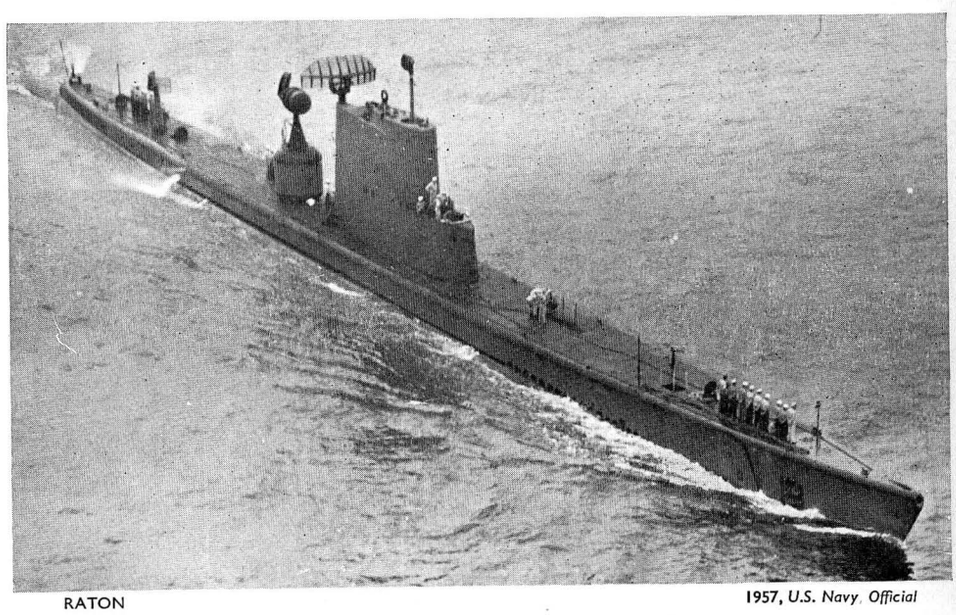
General Notes

Before conversion into Radar Picket Submarines, SSR, these vessels were conventional fleet submarines of the "Gato" class, see earlier page. They were cut in two to permit the installation of new electronic equipment. Two new midsections lengthened them by 31 feet from their original 311¾ feet and increased their displacement from their original 1,525 tons. *Redfin* re-commissioned 9 Jan. 1953. *Rock* re-commissioned 12 Oct. 1953. Photograph of *Ray* in the 1957-58 edition. *Redfin* was reclassified from SSR to SS in 1959, and *Rasher*, *Raton*, and *Rock* were reclassified as AGSS in 1960.

Name	*Laid down*	*Launched*	*Completed*
Rasher	4 May 1942	20 Dec. 1942	8 June 1943
Raton	29 May 1942	24 Jan. 1943	13 July 1943
Redfin	3 Sep. 1942	4 Apr. 1943	31 Aug. 1943
Rock	23 Dec. 1942	20 June 1943	26 Oct. 1943

Recent Disposals

Pompon, SSR 267, and *Ray*, SSR 271, were stricken from the Navy List at the end of 1960.



RATON — 1957, *U.S. Navy. Official*

Target and Training Submarines (SST)

2 "T" Class

Electric Boat Co., Groton, Conn

SST
1 MACKEREL (ex-*T1*, ex-*AGSS* 570)

1 Portsmouth Naval Shipyard

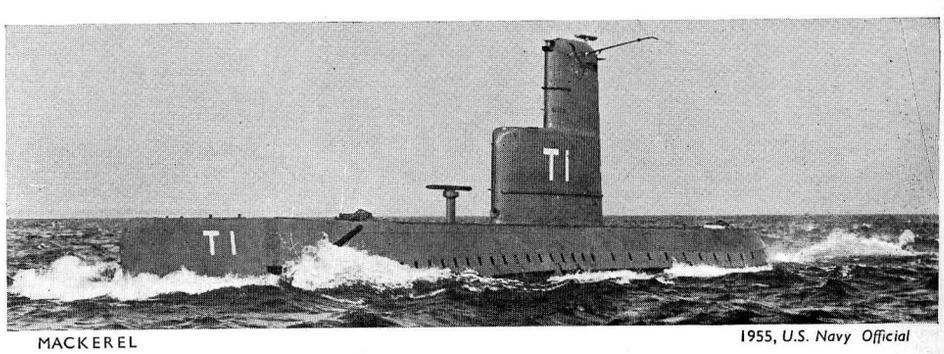
SST
2 MARLIN (ex-*T2*)

Displacement:	250 tons *standard*, 303 tons *surface* (347 tons *submerged*)
Dimensions:	131¼ (*o.a.*) × 13 7/12 × 12½ (*mean*) feet
Torpedo Tubes:	1 forward
Machinery:	General Motors diesels. 1 shaft. Elliott electric motors. S.H.P.: 1,050 =10 kts. *surface* and *submerged*
Oil fuel:	18 tons
Radius:	2,000 miles at 10 kts.
Complement:	14

General Notes

Marlin was ordered on 17 Mar. 1951. Smallest submarine built for 47 years. Stated to be useful in landing raiding parties. Same general appearance as "Guppy" type submarines. *Mackerel* was ordered on 5 Jan. 1952. Classification SST and former name T1 superseded AGSS 570, the classification and number originally assigned to *Mackerel*. For training surface and air anti-submarine forces. Renamed in 1956. Cost $3,000,000 each.

Name	*Laid down*	*Launched*	*Completed*
Mackerel	12 May 1952	14 Oct. 1953	28 Nov. 1953
Marlin	1 Apr. 1952	17 July 1953	9 Oct. 1953



MACKEREL — 1955, *U.S. Navy Official*

Electric Boat Notes

The former Electric Boat Co. Groton, Conn., mentioned throughout the submarine pages is now known as the Electric Boat Division of the General Dynamics Corpn., Groton, Conn.

Submarines—*continued*

Guided-missile Submarines (SSG)

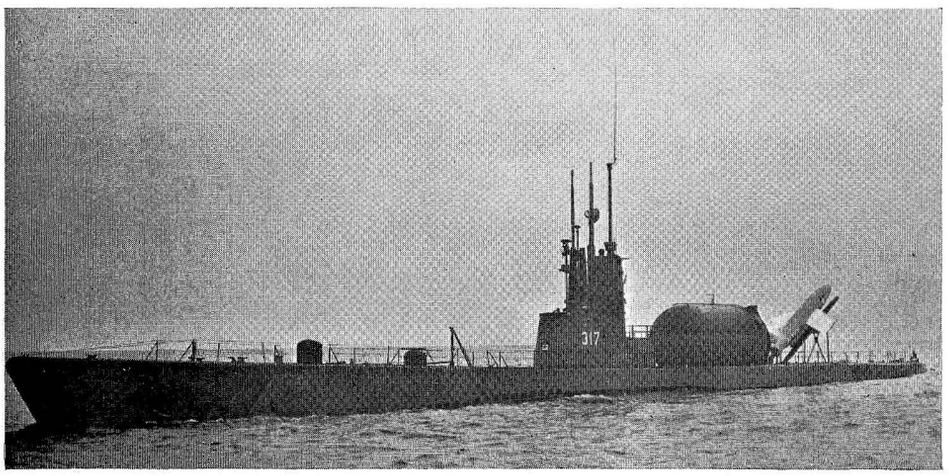
1 Converted "Balao" Class

SSG
317 BARBERO (ex-*ASSA*, ex-*SS*)

Builders:	E.ectric Boat Div., Groton
Laid down:	11 Mar. 1943
Launched:	12 Dec. 1943
Completed:	29 Apr. 1944
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311½×27×17 feet
Machinery:	Diesels: B.H.P.: 6,500=20 kts. (*surface*). H.P.: 2,750=15 kts. (*submerged*)
Oil Fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	78

Notes

Barbero was originally a conventional submarine of the "Balao" class, see earlier page, but she was subsenquently converted to an Amphibious Vessel. Submarine Cargo (ASSA) and under the 1955 fiscal program she was converted to a guided missile submarine (SSG) at Mare Island Naval Shipyard and recommissioned 27 Oct. 1955. She now has a fully streamlined conning tower of the "Guppy" type. She has been modified at Philadelphia Naval Shipyard to handle the (now cancelled) "Regulus II" guided missile. In Pacific. She fired her 1,000th "Regulus I" missile during 1960.



BARBERO (with Regulus I in launching position) 1959, *United States Navy Official*

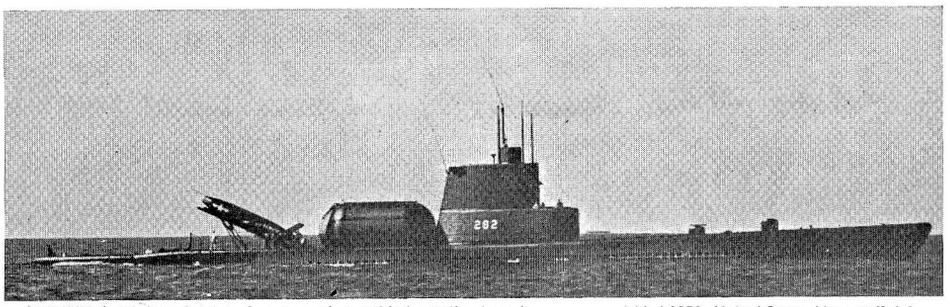
1 Converted "Gato" Class

SSG
282 TUNNY

Builders:	Mare Island Naval Shipyard
Laid down:	10 Nov. 1941
Launched:	1 July 1942
Completed:	1 Sep. 1942
Displacement:	1,525 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	311¾×27×17 feet
Machinery:	Diesels. B.H.P.: 6,500=21 kts. (*surface*), Electric motors, H.P.: 2,750=10 kts. (*submerged*)
Oil fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	85

General Notes

Before conversion was of "Gato" class, see preceding page. Converted by Mare Island Naval Shipyard, Vallejo, California. She has been modified at Pearl Harbour Naval Shipyard to handle the now cancelled "Regulus II" guided missile. In Pacific.



TUNNY (with Regulus I surface-to-surface guided missile aboard) *Added* 1959, *United States Navy, Official*

Guided Missile Notes

Equipped with "Regulus I" guided missiles, 32½ feet long. Both *Barbero* and *Tunny* are fitted with missile guidance equipment. Submarines fitted with missile guidance equipment but not fitted for launching guided missiles are *Cusk*, *Carbonero*, *Torsk*, *Argonaut* and *Runner*.

Photograph Notes

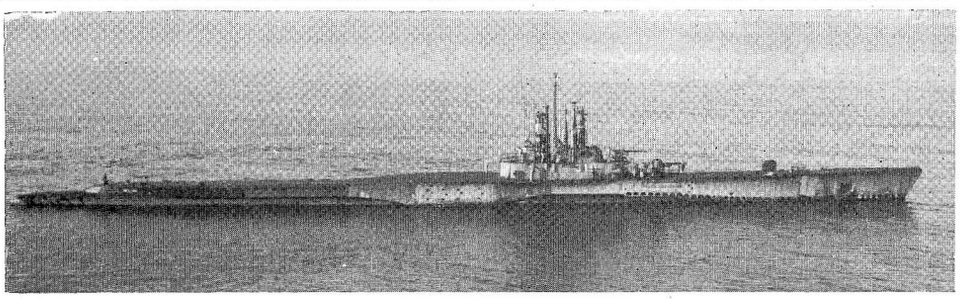
Sequence photographs of "Regulus I" guided missile rolled from the hangar of *Tunny*, being boosted, and soaring towards its target, in the 1957-58 edition. Another photograph showing "Regulus I" being hauled into deck hangar with another missile already in position, in the 1959-60 edition.

Transport Submarines (APSS)

Amphibious Troop-carrying Type

2 Converted "Balao" Class

APSS 313 PERCH		**APSS 315 SEALION**
Name:	*Perch*	*Sealion*
Builders:	Electric Boat Div., Groton	Electric Boat Div., Groton
Laid down:	5 Jan. 1943	25 Feb. 1943
Launched:	12 Sep. 1943	31 Oct. 1943
Completed:	7 Jan. 1944	8 Mar. 1944
Displacement:	1,526 tons *standard*, 1,900 tons *surface* (2,500 tons *submerged*)	
Dimensions:	311½×27×17 feet	
Guns:	*Sealion* 1—5 inch, 25 cal.; 1—40 mm. AA. *Perch unarmed*	
Machinery:	Diesels. B.H.P.: 6,500=20 kts. (*surface*). H.P.: 2,750=15 kts. (*submerged*) designed (2 of 4 engines were removed for additional troop space which reduced speed to 13 kts.)	
Oil fuel:	300 tons	
Radius:	12,000 miles at 10 kts.	
Complement:	80 (can carry 160 Marines, Commandos or Frogmen)	



SEALION 1957, *U.S. Navy, Official*

General Notes

Perch was converted at Mare Island Naval Shipyard and *Sealion* was converted at San Francisco Naval Shipyard, to carry 160 troops each. The large cylindrical chamber abaft the conning tower on the after deck is a water-tight storage space for the stowage of amphibious landing equipment. Both vessels were formerly fleet-type submarines of "Balao" class, see earlier page. Now classed as "Amphibious Vessels, Submarine Transport." Conversion of *Sealion* completed 15 Dec. 1948. Torpedo tubes removed. In 1960 *Perch* was decommissioned and *Sealion* was assigned to Naval Reserve training.

Photograph Notes

A photograph of *Perch*, showing amphibious hangar, appears in the 1949-50 to 1959-60 editions.

Appearance Notes

Observe how the hull bulges out abaft the conning tower.

Submarine Oiler AOSS, ex-AGSS, ex-SSO

1 Converted "Balao" Class

AO (SS)
362 GUAVINA

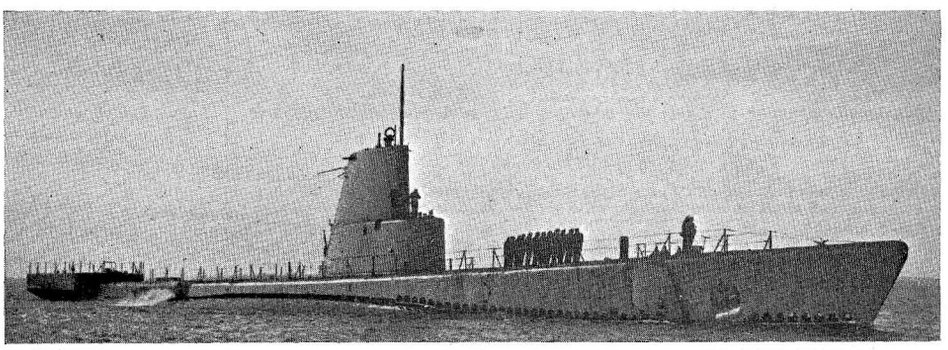
Builders:	Manitowoc Shipbuilding Co.
Launched:	29 Aug. 1943
Completed:	23 Dec. 1943
Displacement:	1,750 tons *standard*, 2,000 tons *surface* (2,730 tons *submerged*)
Dimensions:	311½×37×17 feet
Machinery:	4 General Motors diesels. S.H.P.: 4,160=16 kts.
Oil fuel:	300 tons (own fuel)
Radius:	12,000 miles at 10 kts.
Complement:	70

General Notes

Before conversion into a Submarine Oiler this vessel was a conventional fleet submarine of the "Balao" class, see earlier page. Fitted out at Mare Island Naval Shipyard at a cost of $2,000,000 with exterior tanks for bulk liquids and special compartments which permit cargo in watertight cases to be discharged while the craft is submerged. Beam increased from 27 to 37 feet. Re-commissioned 1 Feb. 1950. Formerly classified as Submarine Oiler, SSO, but later reclassified as AGSS (Auxiliary Submarine), and again reclassified as AOSS on 22 June 1957. Fitted for refuelling seaplanes.

Photograph Notes

Starboard broadside view in the 1955-56 to 1957-58 editions. Starboard quarter view, showing stern tank, in the 1957-58 to 1959-60 editions.



GUAVINA *Added* 1959, *Wright & Logan*

New Construction (Maritime Administration)

In 1959 a contract was awarded to the Electric Boat Division, General Dynamics Corporation, Groton, Conn., for the preparation of drawings and testing of models of a 20-kt. 20,000 tons deadweight nuclear powered submarine tanker for the Maritime Administration.

Recent Disposals

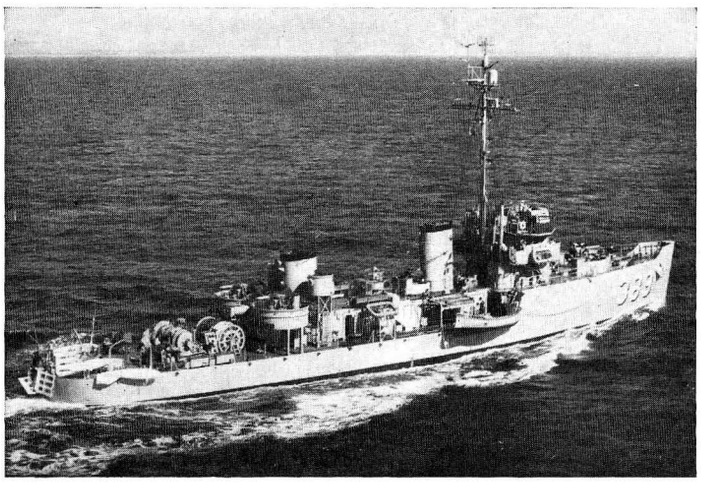
The converted "Gato" class experimental submarine *Flying Fish*, AGSS 229, was stricken from the Navy List and scrapped in 1959.

Pike was scrapped in Jan. 1957. *Seal* has also been scrapped.

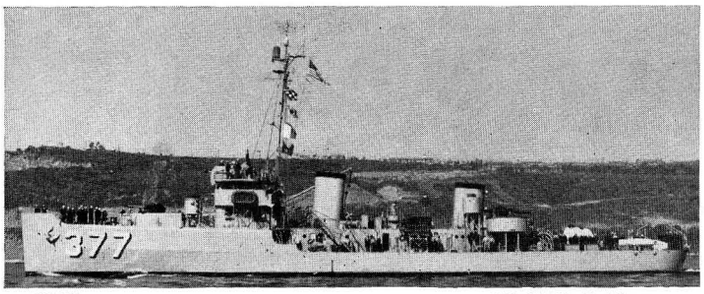
The other training submarines *Plunger*, *Permit*, *Tarpon* and *Portpoise* were stricken from the Navy List from Nov. 1956 to Jan. 1957. The training submarines *Gar*, SS 206, *Tambor*, SS 206, *Tambor*, SS 198, and *Tautog*, SS 199, were stricken from the Navy List and scrapped in 1959-60.

The midget submarine XI, built in 1954-55, see full details in the 1958-59 and earlier editions, was decommissioned in Feb. 1958 after internal explosion which severed hull into three pieces; but in Sep. 1960 the Navy reported it is bringing its only midget submarine back into service to work on a Naval Research Laboratory project.

FLEET MINESWEEPERS (Steel Hulled) (MSF)



WAXWING — *Ted Stone*



QUAIL — *Added* **1960**, *Ted Stone*

52 "Auk" Class. (Large Type)

10 *American S.B. Co.*

MSF
116 SPEED (18 Apr. 1942)
384 SPRIG (15 Sep. 1944)
114 STAFF (17 June 1942)
118 STEADY (6 June 1942)
385 TANAGER (9 Dec. 1944)
386 TERCEL (16 Dec. 1944)
387 TOUCAN (15 Sep. 1944)
388 TOWHEE (9 Jan. 1945)
389 WAXWING (10 Mar. 1945)
390 WHEATEAR (21 Apr. 1945)

2 *Associated Shipbuilders*

322 SPEAR (25 Feb. 1943)
324 VIGILANCE (5 Apr. 1943)

4 *Defoe S.B. Co.*

58 BROADBILL (21 May 1942)
59 CHICKADEE (20 July 1942)
60 NUTHATCH (16 Sep. 1942)
61 PHEASANT (24 Oct. 1942)

13 *General Engineering & DD. Co.*

340 ARDENT (22 June 1943)
314 CHAMPION (12 Dec. 1942)
315 CHIEF (5 Jan. 1943)
316 COMPETENT (9 Jan. 1943)
317 DEFENSE (18 Feb. 1943)
318 DEVASTATOR (19 Apr. 1943)
319 GLADIATOR (7 May 1943)
100 HEED (19 June 1942)
101 HERALD (4 July 1942)
320 IMPECCABLE (21 May 1943)
102 MOTIVE (17 Aug. 1942)
103 ORACLE (30 Sep. 1942)
64 STARLING (11 Apr. 1942)

7 *Gulf S.B. Corpn.*

341 DEXTROUS (17 Jan. 1943)
379 ROSELLE (29 Aug. 1945)
381 SCOTER (26 Sep. 1945)
126 TOKEN (28 Mar. 1942)
127 TUMULT (19 Apr. 1942)
128 VELOCITY (19 Apr. 1942)
131 ZEAL (15 Sep. 1942)

2 *John H. Mathis Co.*

120 SWAY (29 Sep. 1942)
122 SWIFT (5 Dec. 1942)

1 *Norfolk Navy Yard*

55 RAVEN (24 Aug. 1940)

2 *Pennsylvania Shipyard*

104 PILOT (5 July 1942)
105 PIONEER (26 July 1942)

9 *Savannah Machine & Foundry Co.*

372 MURRELET (29 Dec. 1944)
E 373 PEREGRINE (17 Feb. 1945)
374 PIGEON (28 Mar. 1945)
375 POCHARD (11 June 1944)
376 PTARMIGAN (15 July 1944)
377 QUAIL (20 Aug. 1944)
378 REDSTART (18 Oct. 1944)
123 SYMBOL (2 July 1942)
124 THREAT (15 Aug. 1942)

2 *Winslow Marine Ry. & S.B. Co.*

110 REVENGE (ex-*Right*, 7 Nov. 1942)
111 SAGE (21 Nov. 1942)

Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221½ (*o.a.*) × 32½ × 10¾ (*max.*) feet
Guns:	1—3 inch, 50 cal. d.p., 2 or 4—40 mm. AA.
Machinery:	Diesel, with electric drive. 2 shafts B.H.P.: 2,976-3,532=18 kts.
Complement:	105 (war)

General Notes
All except *Peregrine* (experimental) are out of commission, in reserve. *Raven* is of slightly different type (full particulars and photograph in the 1957-58 edition).

Reclassification Notes
Prevail (*AM* 107), *Pursuit* (*AM* 108), *Requisite* (*AM* 109) and *Sheldrake* (*AM* 62) of this class were reclassified as survey ships (AGS) early in 1952 (see later page) and *Surfbird* (MSF 383 of this class was reclassified as a degaussing vessel (ADG) on 18 May 1957 (see later page).
All the above minesweepers, formerly known as Ocean Minesweepers (AM) were re-classified as Minesweepers, Fleet (steel-hulled) MSF in Feb. 1955.

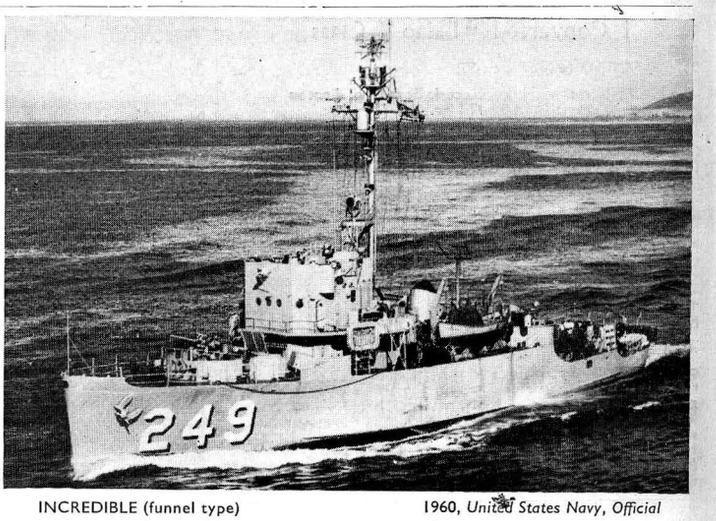
Experimental Notes
Peregrine is now experimental with the designation EMSF 373.

Transfer Notes
Sister ships *Strive*, MSF 117, and *Sustain*, MSF 119, were reclassified as coastal minelayers MMC 1 and MMC 2, respectively, in 1958, and transferred to Norway on 1 Oct. 1959 after conversion at Charleston Naval Shipyard. *Seer*, MSF 112, and *Triumph*, MSF 323, are also being converted into coastal minelayers and transferred to Norway in 1960. *Ruddy*, MSF 380, and *Shoveler*, MSF 382, are being transferred to Peru in 1960 for use as patrol vessels.

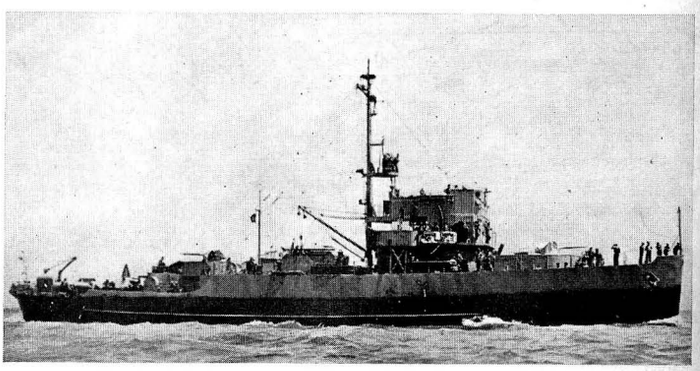
Photograph Notes
Larger photographs of *Raven* and *Sprig* appear in the 1957-58 and earlier editions, of *Revenge* in the 1957-58 to 1959-60 editions, and of *Pilot* in the 1959-60 edition.

Recent Disposals
Auk, MSF 57, was stricken on 1 Aug. 1959.

Fleet Minesweepers—*continued*



INCREDIBLE (funnel type) — 1960, *United States Navy, Official*



No funnel type — *United States Navy, Official*

41 "Admirable" Class. (Medium Type)

4 *American S.B. Co.*

MSF
223 DOUR (25 Mar. 1944)
224 EAGER (10 June 1944)
255 JUBILANT (20 Feb. 1943)
256 KNAVE (13 Mar. 1943)

9 *Associated Shipbuilders*

304 SCURRY (ex-*Skurry*, 11 Oct. 1943)
302 SIGNET (16 Aug. 1943)
303 SKIRMISH (16 Aug. 1943)
306 SPECTER (15 Feb. 1944)
307 STAUNCH (15 Feb. 1944)
308 STRATEGY (28 Mar. 1944)
309 STRENGTH (28 Mar. 1944)
310 SUCCESS (11 May. 1944)
311 SUPERIOR (11 May 1944)

4 *General Engineering & D.D. Co.*

283 RANSOM (18 Sep. 1943)
284 REBEL (28 Oct. 1943)
285 RECRUIT (11 Dec. 1943)
289 REPORT (8 Aug. 1944)

1 *Gulf S.B. Corpn.*

280 PROWESS (17 Feb. 1944)

2 *Puget Sound Bridge Co.*

232 EXECUTE (22 June 1944)
233 FACILITY (22 June 1944)

3 *Savannah Machine & Foundry Co.*

252 INSTILL (5 Mar. 1944)
253 INTRIGUE (8 Apr. 1944)
254 INVADE (6 Feb. 1944)

4 *Tampa S.B. Co.*

214 CRAG (ex-*Craig*, 21 Mar. 1943)
215 CRUISE (21 Mar. 1943)
220 DEVICE (21 May 1944)
221 DIPLOMA (21 May. 1944)

5 *William Iron & Steel Corpn.*

165 COUNSEL (17 Feb. 1943)
356 CREDDOCK (22 July 1944)
362 GADWALL (15 July 1943)
364 GRAYLAG (4 Dec. 1943)
365 HARLEQUIN (7 June 1944)

9 *Winslow Marine Rly. & S.B. Co.*

239 GAYETY (19 Mar. 1944)
240 HAZARD (21 May 1944)
241 HILARITY (30 July 1944)
242 INAUGURAL (1 Oct. 1944)
296 SCOUT (2 May 1943)
298 SCUFFLE (8 Aug. 1943)
299 SENTRY (15 Aug. 1943)
300 SERENE (31 Oct. 1943)
301 SHELTER (14 Nov. 1943)

Displacement:	650 tons *standard* (945 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.a.*) × 33 × 10 (*max.*) feet
Guns:	1—3 inch d.p., 4—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,710=15 kts.
Complement:	104

General Notes
All the above minesweepers, formerly known as Fleet Minesweepers (AM) were reclassified as Minesweepers, Fleet (steel hulled) MFS in Feb. 1955. Appearance varies according to the builders. Some have a funnel. *Crag* and *Cruise*, completed by Charleston Navy Yard, are armed with only 2—40 mm. AA. guns. *Salute* was lost in the Second World War. *Pirate* (AM 275) and *Pledge* (AM 277) of this class struck mines and sank off Wonsan, Korean east coast, on 12 Oct. 1950. 34 of this class were transferred to the Soviet Navy and 12 to the Chinese Navy. All out of commission in reserve.

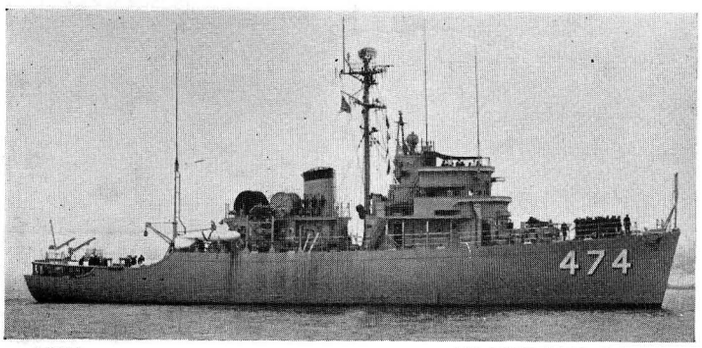
Photograph Notes
A larger photograph of *Jubilant* appears in the 1955-56 to 1959-60 editions.

Recent Disposals
Sister ship *Control*, MSF 164, was stricken from the Navy List on 13 Mar. 1958 and disposed of in 1959. *Clamour*, MSF 160, *Climax*, MSF 161, *Compel*, MSF 162, *Concise*, MSF 163, *Incredible*, MSF 249, *Mainstay*, MSF 261, *Reign*, MSF 288, *Dipper*, MSF 357, and *Harrier*, MSF 366, of this class were stricken on 1 Dec. 1959, and *Change*, MSF 159, *Density*, MSF 218, *Design*, MSF 219, *Garland*, MSF 238, *Opponent*, MSF 269, and *Scrimmage*, MSF 297, were stricken at the end of 1960.

OCEAN MINESWEEPERS (Non-Magnetic) MSO



PINNACLE — 1960, *Skyfotos*



VITAL — *Added* 1960, *Wright & Logan*

57 "Agile" Class

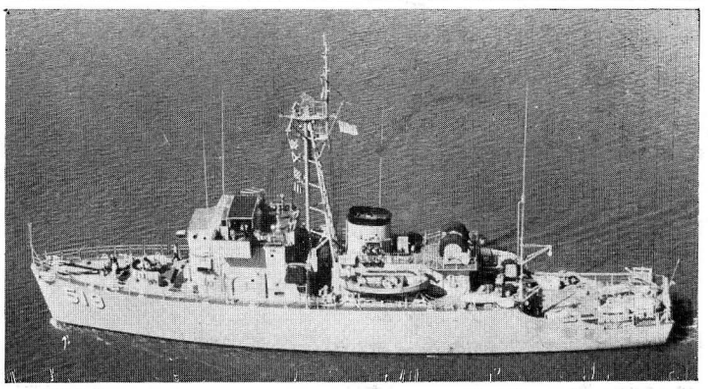
MSO		MSO	
421 AGILE	(19 Nov. 1955)	**449 IMPERVIOUS**	(29 Aug. 1952)
422 AGGRESSIVE	(4 Oct. 1952)	**455 IMPLICIT**	(1 Aug. 1953)
423 AVENGE	(15 Mar. 1953)	**456 INFLICT**	(16 Oct. 1953)
424 BOLD	(14 Mar. 1953)	**457 LOYALTY**	(22 Nov. 1953)
425 BULWARK	(14 Mar. 1953)	**458 LUCID**	(14 Nov. 1953)
426 CONFLICT	(16 Dec. 1952)	**459 NIMBLE**	(6 Aug. 1954)
427 CONSTANT	(14 Feb. 1952)	**460 NOTABLE**	(15 Oct. 1954)
428 DASH	(20 Sep. 1952)	**461 OBSERVER**	(19 Oct. 1954)
429 DETECTOR	(5 Dec. 1952)	**462 PINNACLE**	(3 Jan. 1955)
430 DIRECT	(27 May 1953)	**463 PIVOT**	(9 Jan. 1954)
431 DOMINANT	(5 Nov. 1953)	**464 PLUCK**	(6 Feb. 1954)
432 DYNAMIC	(17 Dec. 1952)	**466 PRIME**	(27 May 1954)
433 ENGAGE	(ex-*Elusive*, 18 June 1953)	**467 REAPER**	(25 June 1954)
434 EMBATTLE	(27 Aug. 1953)	**468 RIVAL**	(15 Aug. 1953)
435 ENDURANCE	(9 Aug. 1952)	**469 SAGACITY**	(20 Feb. 1954)
436 ENERGY	(13 Feb. 1953)	**470 SALUTE**	(14 Aug. 1954)
437 ENHANCE	(11 Oct. 1952)	**471 SKILL**	(23 Apr. 1955)
438 ESTEEM	(20 Dec. 1952)	**472 VALOR**	(13 May 1953)
439 EXCEL	(25 Sep. 1953)	**473 VIGOR**	(24 June 1953)
440 EXPLOIT	(10 Apr. 1953)	**474 VITAL**	(12 Aug. 1953)
441 EXULTANT	(6 June 1953)	**488 CONQUEST**	(20 May 1954)
442 FEARLESS	(17 July 1953)	**489 GALLANT**	(4 June 1954)
443 FIDELITY	(21 Aug. 1953)	**490 LEADER**	(15 Sep. 1954)
444 FIRM	(15 Apr. 1953)	**491 PERSISTANT**	(23 Apr. 1955)
445 FORCE	(26 June 1953)	**492 PLEDGE**	(20 July 1955)
446 FORTIFY	(14 Feb. 1953)	**493 STALWART**	(3 Dec. 1955)
447 GUIDE	(17 Apr. 1954)	**494 STURDY**	(28 Jan. 1956)
448 ILLUSIVE	(12 July 1952)	**495 SWERVE**	(1 Nov. 1955)
		496 VENTURE	(27 Nov. 1956)

Displacement:	665 tons *light* (750 tons *full load*)
Dimensions:	165 (*w.l.*), 171 (*o.a.*) × 35 × 9½ (*mean.*), 11 (*max.*) feet
Guns:	1—40 mm.
Machinery:	4 Packard diesels. 2 shafts, Controllable pitch propellers. B.H.P.: 1,600=15·5 kts. (*Venture* has 2 diesels, 1,200 B.H.P.)
Oil fuel:	46 tons
Radius:	2,400 miles at 12 kts.
Complement:	72 to 75.

Notes

These ships have wooden hulls and non-magnetic equipment, with diesels of non-magnetic stainless steel alloy. *Aggressive*, *AM* 422, was built by Luders Marine Const. Co., Stamford, Conn. Cost $3,500,000. Laid down on 25 May 1951, commissioned on 25 Nov. 1953. *Illusive*, *AM* 448, was built by Martinlock S.B. Co., San Diego, was commissioned on 14 Nov. 1953, *Bold*, *AM* 424, and *Bulwark*, *AM* 425, were built by Norfolk Navy Shipyard, and the remainder by private yards. Nos. 450-454, 475-487, 498-507, 512-518 were built for foreign countries under MDAP and no U.S. names were allocated. 8 were transferred to France, 6 to the Netherlands, 4 to Portugal, 4 to Belgium, 2 to Norway, and 2 to Italy. All the above vessels, formerly known as Wooden Minesweepers (AM) were reclassified as Minesweepers, Ocean (Non-magnetic) (MSO) in Feb. 1955. Launch dates above. MDAP Nos. 506 and 507 were launched on 13 Nov. 1954 and 19 Feb. 1955, respectively, and transferred to Italy in 1956. A total of 100 MSO were built in the U.S.A. for the U.S. Navy and the Mutual Defense Assistance Program. *Prestige* was stranded in the Naruto Straits, Inland Sea, Japan, on 23 Aug. 1958, and was abanonded as a total loss, and she has been stricken from the Navy List. *Exultant* caught fire after an explosion off the coat of Savannah, Georgia, on 12 Aug. 1960.

Ocean Minesweepers—*continued*



ABILITY — *United States Navy, Official*

3 "Ability" Class

MSO		MSO	
519 ABILITY	29 Dec. 1956	**520 ALACRITY**	8 June 1957
		521 ASSURANCE	31 Aug. 1957

Displacement:	801 tons *light*, 963 tons *full load*
Dimensions:	189 × 36 × 11 feet
Guns:	1—40 mm. A..
Machinery:	2 G.M. diesels. B.H.P.: 1,400=15 kts. Controllable pitch propellers
Complement:	82 (7 officers, 75 men)

Notes

Non-magnetic, wooden hulled vessels built by Petersen Builders Inc., Sturgeon Bay, Wisc. Last of Fiscal 1955 program to be awarded. Designed to serve as mine division commander's flagships. Equipped to conduct all types of mine countermeasures operations. Laid down on 5 Mar. 1956, 3 May 1956 and 28 Jan. 1957, respectively. Launch dates above. *Assurance* commissioned on 21 Nov. 1958.

1 New Construction

MSO 522

Notes

Being built by Petersen Builders Inc., Sturgeon Bay, Wisc. Similar to MSO 512 class. Only such contract in Fiscal Year 1958.

4 "Acme" Class

MSO	*Launched*	MSO	*Launched*
508 ACME	23 June 1955	**510 ADVANCE**	12 July 1957
509 ADROIT	20 Aug. 1955	**511 AFFRAY**	18 Dec. 1956

Notes

Different class from "Agile" type but have same basic particulars. *Affray*, fourth of the new class, commissioned on 8 Dec. 1958. Fitted with flagship facilities.

MINESWEEPER, SPECIAL (MSS)

1 Converted "Liberty" Type

Displacement:	4,000 tons
Machinery:	4 Aero engines (see *Notes*)
Complement:	8 (1 officer, 7 men)

Notes

The conversion of this "Liberty" ship into a special minesweeper was authorised under the 1960 program. She is the first ship designed to destroy the pressure mine. Although designed primarily for use against pressure mines she will counter other influence type as well. Pressure mines will be destroyed by passage of the ship over the mines. The hull will be filled with styrofoam to provide buoyancy after sustaining damage. The ship will be driven by four airplane engines, the propellers being mounted on the deck. Also reported to be filled with diesel engines (right-angle drive). The ship will be remotely controlled by personnel stationed topside in a shock mounted central space. Limited facilities for feeding but no berthing facilities will be provided for the crew. Conversion was awarded to a private shipyard.

AUXILIARY MINELAYERS (MMA)

5 Ex-Army Mineplanter Type

MMA

11 CAMANCHE (ex-*MP* 12, *Brigadier General Royal T. Frank*)
12 CANONICUS (ex-*MP* 10, *Major General Erasmus Weaver*)
13 MIANTONOMAH (ex-*MP* 14, *Colonel Horace F. Spurgeon*)
14 MONADNOCK (ex-*Major Samuel Ringold*)
15 NAUSETT (ex-*MP* 7, *Major General Wallace F. Randolph*)

Displacement:	910 tons *light* (1,315 tons *full load*)
Dimensions:	176 (*w.l.*), 189 (*o.a.*) × 37 × 12½ feet
Machinery:	Skinner reciprocating Unaflow engines. *MMA* 11-13: 2 shafts. H.P.: 1,200; *MMA* 14-15: 1 shaft. H.P.: 600

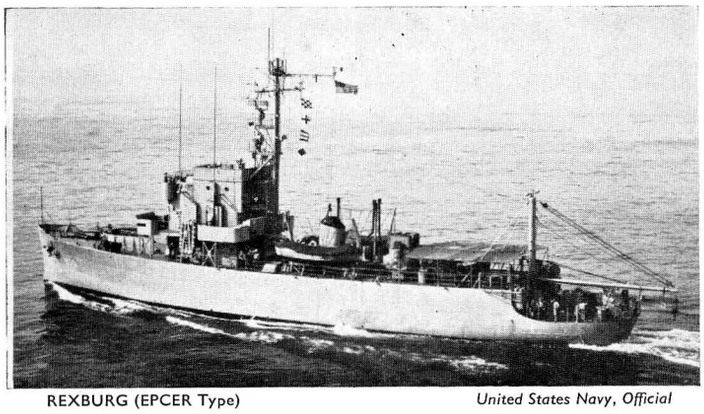
Notes

Former U.S. Army mineplanters. Redesignated MMA instead of ACM in 1955. Named by the U.S. Navy on 1 May 1955. All out of commission in reserve.

Recent Disposals

Sister ship *Puritan*, MMA 16 (ex-*MP* 13, *Colonel Alfred A. Maybach*) was stricken on 1 Nov. 1959.

ESCORTS (PCE and PCER)



REXBURG (EPCER Type) *United States Navy, Official*



WORLAND (PCE Type) 1960, *United States Navy, Official*

20 "180" ft. Steel Type

PCE		PCER	
842 MARFA	14 Nov. 1943	E 849 SOMERSWORTH	31 Jan. 1944
845 WORLAND	13 Dec. 1943	E 850 FAIRVIEW	8 Feb. 1944
870 DANIA	27 Feb. 1943	E 851 ROCKVILLE	22 Feb. 1944
877 HAVRE	11 Aug. 1943	E 852 BRATTLEBORO	1 Mar. 1944
880 ELY	27 Oct. 1943	853 AMHERST	18 Mar. 1944
886 BANNING	10 July 1944	E 855 REXBURG	10 Apr. 1944
892 SOMERSET	1 May 1943	856 WHITEHALL	21 Apr. 1944
894 FARMINGTON	15 May 1943	E 857 MARYSVILLE	4 May 1944
895 CRESTVIEW	18 May 1943		
899 LAMAR	11 Aug. 1943		
902 PORTAGE	28 Aug. 1943		
903 BATESBURG	6 Sep. 1943		

Displacement:	640 tons *standard* (903 tons *full load*)
Dimensions:	180 (*w.l.*), 184½ (*o.s.*) × 33 × 9½ feet
Guns:	1—3 inch d.p., 6—40 mm. AA. 4 D.C.T. (most PCER type are unarmed)
Machinery:	Diesel. 2 shafts. B.H.P.: 2,400=16 kts.
Complement:	PCE: 99; PCER: 107; EPCER: 100

General Notes

Built by Pulman Standard Mfg. Co., Albina Engine & Machinery Works and Willamette Iron and Steel Corpn. Launch dates above. During war the "PCER" type carried hospital equipment and personnel, with accommodation for 57 patients. *PCE* 873-898 were redesignated *PCEC*, reassigned to amphibious forces, and had additional equipment installed as Control Escorts, but the remaining PCEC were again reclassified as PCE on 27 Oct. 1955. The 25 surviving PCE and PCER were named on 15 Feb. 1956.

Experimental Notes

The six vessels now used for experimental purposes, Nos. 849, 850, 851, 852, 855 and 957, were redesignated as EPCER in 1959.

Photograph Notes

A port broadside view of *Brattleboro*, PCER 852, appears in the 1949-50 to 1958-59 editions, and a starboard broadside view of *Gettysburg*, PCE 904, in the 1952-53 to 1959-60 editions.

Transfer Notes

Sister ships *Eunice*, PCE 846, and *Pascagoula*, PCE 874, were transferred to the Ecuadorian Navy in 1960. Several PCE were transferred to China, Cuba and Mexico.

PCEC 873, *PCEC* 882, *PCEC* 896 and *PCEC* 898 are on loan to Korea. *PCEC* 873 and *PCEC* 898 were transferred to South Korea in 1956 and *PCEC* 882 and *PCEC* 896 in Feb. 1955.

Recent Disposals

Skowhegan, PCE 843, *Groton*, PCE 900, and *Gettysburg*, PCE 904, were stricken on 1 Feb. 1960.

SUBMARINE CHASERS PC(H)

1 New Construction Hydrofoil Type

PC(H) 1

Displacement:	100 tons
Dimensions:	Length: 115 feet (*o.a.*)
Guns:	2—50 cal. MG. (twin)
A/S weapons:	4—21 inch torpedo tubes (2 twin), D.C.T.
Machinery:	2 gas turbines. S.H.P.: 6,000=45 to 60 kts. (*max.*) Auxiliary diesel propulsion
Complement:	13 (1 officer, 12 men)

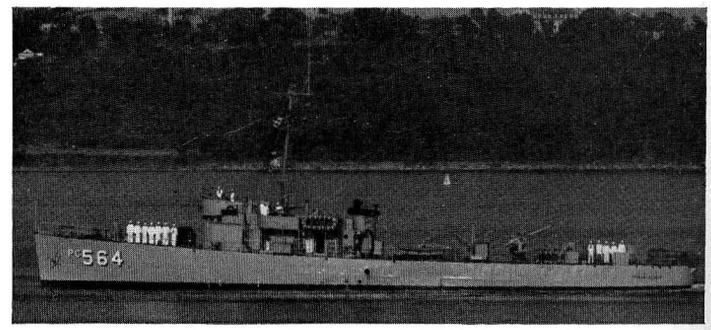
Notes

Hydrofoil submarine chaser, prototype of future anti-submarine warfare patrol craft, for harbour surveillance, harbour approaches, and coastal water out to 200 miles. To be equipped with machine guns, torpedoes, depth charges and sonar gear. Requested in the Fiscal Year 1960 Program. Aluminium hull. Twin screws fitted on hydrofoils. To be constructed by a private shipyard and to cost $3,700,000. Two sonars and magnetic detection equipment will be installed. Retractable hydrofoils. To be built jointly by Boeing Aircraft Corpn., Seattle, Wn., and J. M. Martinac, Tacoma, Washington.

SUBMARINE CHASERS (PC)



PC (normal rig) *United States Navy, Official*



CHADRON (refitted with taller mast) *United States Navy, Official*

35 "173 ft." Steel Type

PC	PC	PC
465 PARAGOULD	572 TOOELE	1170 KELSO
466 CARMI	579 WAPAKONETA	1172 OLNEY
470 ANTIGO	582 LENOIR	1173 ANDALUSIA
483 ROLLA	601 ARCATA	1176 MINDEN
484 COOPERSTOWN	602 ALTURAS	1177 GUYMON
487 LARCHMONT	603 SOLVAY	1179 MORRIS
564 CHADRON	E 618 WEATHERFORD	1180 WOODSTOCK
565 GILMER	619 DALHART	1231 TIPTON
566 HONESDALE	1077 EDENTON	1244 MARTINEZ
567 RIVERHEAD	1079 LUDINGTON	1251 UKIAH
568 ALTUS	1081 CADIZ	1252 TARRYTOWN
569 PETOSKEY	1140 GLENWOOD	

Displacement:	280 tons *standard* (450 tons *full load*)
Dimensions:	170 (*w.l.*), 173⅔ (*o.a.*) × 23 × 7½ (*mean*), 10¾ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 2 to 5—20 mm. AA.
A/S weapons:	4 D.C.T.
Machinery:	2 G.M. 2-stroke diesels. 2 shafts. B.H.P.: 2,560 to 2,880= 20 kts.
Complement:	80

General Notes

All the above are of the same general design with minor differences. All launched in 1941-44 (individual dates and builders in 1955-56 edition). Units of this class have been transferred to various other navies. 17 of these vessels formerly rated as Submarine Chasers (Control) (PCC) were reclassified as PC on 27 Oct. 1955. *Weatherford* is experimental and designated EPC.

Patrol Vessel, Submarine Chaser PC 1590 (ex-*Constant*, ex-*AM* 86) steel type ex-minesweeper was stricken from the list of U.S. naval vessels on 17 Sep. 1954. All PCs were named on 15 Feb. 1956.

Transfer Notes

PC 1086, 1130, 1139, 1143, 1144, 1146, 1167, 1171 were transferred to France under MDAP 1951 and sent to Indo-China. PC 485 and PC 600 were loaned to Republic of Korea Navy. PC 495, 570, 575, 609, 616, 1185, 1218 and 1253 transferred to Thailand Navy. PC 786, 1078, 1182, 1280, 1232, 1233, 1254 and 1262 were loaned to Nationalist China in 1954. PC 622 was transferred to Greece under MDAP in 1954.

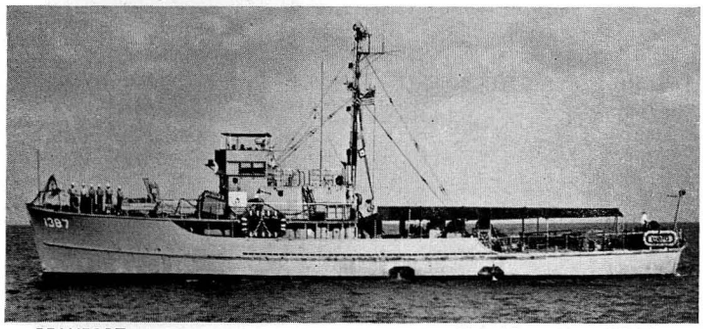
Placerville, PC 1087, *Hanford*, PC 1142, *Susanville*, PC 1149, *Escondido*, PC 1169 and *Vandalia*, PC 1175, were transferred to Taiwan China at Seattle, Washington, in July 1957.

Pierre, PC 1141, was transferred to Indonesia at Pearl Habour on 25 Oct. 1958. *Milledgeville*, PC 1263, was transferred to Taiwan China on 1 July 1959. *Malvern*, PC 580, and *Manville*, PC 581, were transferred to Indonesia in Mar. 1960. *Anacortes*, PC 1569, is to be transferred to a foreign country in 1960.

Recent Disposals

Andrews, PC 606, *Beeville*, PC 617, *Bethany*, PC 620, *Bluffton*, PC 461, *Canandaigua*, PC 1246, *Corinth*, PC 1547, *Fredonia*, PC 1174, *Greencastle*, PC 1119, *Kerrville*, PC 597, *Malone*, PC 553, *Munising*, PC 1228, *Oberlin*, PC 560, *Waverly*, PC 1225, and *Wauseon*, PC 1229 were stricken from the Navy List in 1957. PC 586 *Patchogue*, PC 588, *Houghton*, PC 589, *Metropolis*, PC 592, *Towamda*, PC 776, *Pikeville*, PC 777, *Waynesburg*, PC 778, *Gallipolis*, PC 779, *Mechanicsburg*, PC 780, *Maynard*, PC 781, *Metuchen*, PC 782, *Glenolden*, PC 785, *Frostburg*, PC 808, *Ripley*, PC 817, *Welch*, PC 822, *Asheboro*, PC 1120, *Carlinville*, PC 1125, *Cordele*, PC 1135, *Canastota*, PC 1136, *Galena*, PC 1137, *Worthington*, PC 1138, *Lapeer*, PC 1181, *Wildwood*, PC 1186, *Ipswich*, PC 1191, *Bel Air*, PC 1193, *Ridgway*, PC 1196, *Mayfield*, PC 1198, *Westerly*, PC 1201, *Kittery*, PC 1209, *Medina*, PC 1212, *Laurinburg*, PC 1213, *Loudon*, PC 1216, *Elkins*, PC 1230, *Grinnell*, PC 1237, *Abingdon*, PC 1240, *Cullpeper*, PC 1242, *Port Clinton*, were all stricken from the "List of Naval Vessels" on 1 Apr. 1959. *Jasper*, PC 486, was stricken on 1 May 1959, and *Anoka*, PC 571, *Kewaunee*, PC 1178, and *Durango*, PC 1260, were stricken on 1 Nov. 1959. *Anacortes*, PC 1569, *Grosse Point*, PC 1546, and *Winnemucca*, PC 1145, were stricken at the end of 1960.

SUBMARINE CHASERS (PCS)



BEAUFORT *United States Navy, Official*

6 "136 ft." Wooden Type

PCS	PCS	PCS
1385 HOLLIDAYSBURG	**1401 McMINVILLE**	**1423 PRESCOTT**
1387 BEAUFORT	**1413 ELSMERE**	**1431 GRAFTON**

Displacement:	251 tons *standard* (338 tons *full load*)
Dimensions:	136×24½×8½ (*max.*) feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 2—20 mm. AA.
A/S weapons:	D.C.T.
Machinery:	2 General Motors diesels. B.H.P.: 1,000=14 kts.
Complement:	60

General Notes

Built in 1942-44. Five vessels of this class were reclassified as minesweepers with names and designations *Sanderling*, AMS 35, *Swallow*, AMS 36, *Swan*, AMS 37, *Verdin*, AMS 38, *Waxbill*, AMS 39, but in Mar. and Feb. 1955 *Sanderling*, AMS 35, and *Waxbill*, AMS 39, were reclassified as minesweepers *AMCU* 49 and *AMCU* 50, respectively, and again redesignated when minehunters were reclassified *MHC*, *Swallow*, *Swan* and *Verdin* were redesignated *MSC(O)* on 7 Feb. 1955. Former PCS 1465 was named *Minah* MHC (ex-AMCU) 14, PCS 1426 and PCS 1448 were loaned to Republic of Korea Navy on 9 June 1952, and PCS 1445 and PCS 1446 on 26 May 1952. All PCS were named on 15 Feb. 1956.

Recent Disposals

Attica, PCS 1383, and *Coquille*, PCS 1400, were scrapped in 1957. *Conneaut*, PCS 1444 *Deming*, PCS 1392, *Eufaula*, PCS 1384, *Provincetown*, PCS 1378, *Rushville*, PCS 1380, and *Winder*, PCS 1378, were stricken from the Navy List in 1957. *Hampton*, PCS 1386, was stricken on 1 July 1959.

COASTAL MINEHUNTERS (MHC)



BITTERN 1960, *United States Navy, Official*

1 "Bittern" Class

MHC
43 BITTERN

Displacement:	300 tons *standard* (360 tons *full load*)
Dimensions:	138 (*pp.*), 144½ (*o.a.*)×28×8 feet
Guns:	1—40 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200=14 kts.
Complement:	44 (4 officers, 40 men)

General Notes

One prototype Mine Hunter (MHC) of wooden construction was built by the Consolidated Shipbuilding Corporation, New York City, at a cost of $1,782,107, under the 1954 Fiscal Year program. Designed to locate mines and other underwater obstacles, rather than to sweep them. To accomplish this she was equipped with various types of electronic instruments in place of minesweeping gear found in coastal minesweepers. To be mass produced in the event of mobilisation. Three more were to have been built under the 1955 Naval Appropriations, but were not started. Built of non-magnetic materials, with bronze, aluminium and stainless steel fittings. *Bittern* was laid down on 18 Aug. 1955, launched on 4 Mar. 1957 and commissioned on 26 Aug. 1957.

Recent Disposals

All 29 of the converted coastal minehunters of the underwater locator type (8 former coastal minesweepers of the YMS class and 21 former large infantry landing ships of the LSIL class) were stricken on 1 Nov. 1959 or 1 Jan. 1960. See names, former numbers, and full particulars on page 433 of the 1959-69 edition.

COASTAL MINESWEEPERS (Non-Magnetic)



CORMORANT *United States Navy, Official*

22 "Bluebird" Class (MSC)

MCS	MSC	MCS
121 BLUEBIRD	**195 LIMPKIN**	**204 THRUSH**
122 CORMORANT	**196 MEADOW LARK**	**205 VIREO**
190 FALCON	**197 PARROT**	**206 WARBLER**
191 FRIGATE BIRD	**198 PEACOCK**	**207 WHIPPOORWILL**
192 HUMMING BIRD	**199 PHOEBE**	**208 WIDGEON**
193 JACANA	**E 201 SHRIKE**	**209 WOODPECKER**
194 KING BIRD	**203 THRASHER**	**289 ALBATROSS**
		290 GANNET

Displacement:	320 tons *light* (370 tons *full load*)
Dimensions:	138 (*pp.*), 144 (*o.a.*)×28×8½ feet
Guns:	2—20 mm.
Machinery:	2 General Motors diesels. 2 shafts. B.H.P.: 880=13 kts. (MSC 200-209). Packard engines. 2 shafts. B.H.P.: 1,200=14 kts. (MSC 121, 122, 190-199)
Oil fuel:	25 tons
Radius:	2,500 miles at 10 kts.
Complement:	39

General Notes

Costal motor minesweepers of wooden construction. New type of vessels constructed throughout of materials with the lowest possible magnetic attraction to attain the greatest possible safety factor when sweeping for magnetic mines. *Bluebird* and *Cormorant* (commissioned 14 Aug. 1953) built by Mare Island Naval Shipyard, 310 tons *light*, Packard engines, B.H.P.: 1,200. Only named vessels AMS 121, 122, 190-209 were commissioned into the U.S. Navy. Remainder, 60-120, 123-154, 167-171, 218-221, 255-267 were built for NATO to foreign countries under MDAP. **E** *Shrike* is experimental.

Transfer Notes

17 to Italy: AMS 72, 73, 75, 76, 79-82, 88-90, 133-137. 18 to Belgium: AMS 63-65, 77, 78, 101, 103, 104, 131, 151-154, 169-171, 259, 260. 8 to Denmark: AMS 127, 128, 129, MSC 221, 256, 257, 263, 264. 30 to France: AMS 66-71, 74, 83, 85-87, 93, 94, 96-99, 113-120, 123-126, 141-142. 14 to Netherlands: AMS 100, 105-112, 148-150, 167, 168. 2 to Norway: AMS 102, 132. 8 to Portugal: AMS 60 (ex-U.S.S. *Adjutant*), 61, 62, 91, 92, 145-147. 12 to Spain: AMS 130, 139, 143, 220, 265, 266, MSC 200 (ex-U.S.S. *Redwing*), MSC 202 (ex-U.S.S. *Spoonbill*), MSC 269, 279, 287, 288. 4 to Japan: AMS 95, 144, 255, 258. 6 to Pakistan: AMS 138, 261, 262, 267, 273, 274. 2 to NGRC: AMS 123, 140. 4 to Turkey: 268, 270, 271, 272. 2 to Iran: MSC 275, 276. 2 to Taiwan China: MSC 277, 278. 3 to Vietnam: MSC 281, 282, 283. 3 to Korea: MSC 284, 285, 286.

Cancellation Notes

AMS 155 to 166 were reserved for German built vessels, but order and numbers were cancelled.

Reclassification Notes

All the vessels formerly known as Auxiliary Motor Minesweepers (AMS) were reclassified as Minesweepers, Coastal (MSC), in Feb. 1955.

Production Notes

A total of 160 MSC were built or are building in the U.S.A. for the U.S. Navy and MDAP.

New Construction Notes

It was announced on 22 June 1956 that Bellingham Shipyards Company, Washington, had been awarded a contract to construct five new vessels, MSC 268-272. All these, and sixteen more, MSC 273-288, ordered on 25 Apr. 1957, were built for foreign countries under the Military Assistance Program.

Two new vessels of this class were built by Tacoma Boatbuilding Co., Tacoma, Washington, under the Fiscal Year 1958 Program:—*Albatross*, laid down on 26 Feb. 1959, and launched on 26 Mar. 1960 for commissioning in Dec. 1960 and *Gannet*, laid down on 1 May 1959 and launched on 26 May 1960 for commissioning in Feb. 1961. MSC 291 is also being built at Tacoma in 1960 for MDAP. Two new coastal minesweepers have been ordered from Petersen Builders Inc., Sturgeon Bay, Wisc., with 4 diesels driving two fixed-pitch propellers, and gas turbine generators for power minesweeping.

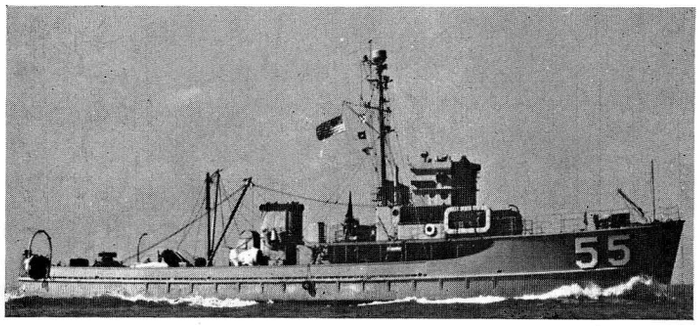
Photograph Notes

A larger photograph of *Cormorant* appears in the 1958-59 and 1959-60 editions, a larger port quarter oblique aerial view of *Jacana* in the 1957-58 edition, and a larger port broadside view of *Bluebird* in the 1955-56 and 1956-57 editions.

Recent Disposals of Motor Torpedo Boats

The four experimental motor torpedo boats of differing designs, PT 809, PT 810, PT 811 and PT 812, were stricken on 1 Nov. 1959. The wartime motor torpedo boats PT 616, PT 619 and PT 620, loaned to Korea in 1952, were also deleted from the list on 1 Nov. 1959.

COASTAL MINESWEEPERS (MSCO)



SEAGULL — 1960, *United States Navy, Official*

11 "Albatross" Class

MSCO	MSCO	MSCO
47 FULMAR (ex-*YMS* 193)	**49 LORIKEET** (ex-*YMS* 271)	**54 RUFF** (ex-*YMS* 327)
13 GRACKLE (ex-*YMS* 312)	**33 PLOVER** (ex-*YMS* 442)	**58 SISKIN** (ex-*YMS* 425)
15 GROUSE (ex-*YMS* 321)	**51 REEDBIRD** (ex-*YMS* 291)	**56 TURKEY** (ex*YMS* 444)
24 LINNET (ex-*YMS* 395)	**53 ROBIN** (ex-*YMS* 311)	

Displacement:	270 tons *standard* (350 tons *full load*)
Dimensions:	136 × 24½ × 8 (*max.*) feet
Guns:	1—40 mm. AA.
A/S weapons:	2 D.C.T.
Machinery:	2 G.M. diesels. 2 shafts. B.H.P.: 1,000=15 kts.
Oil fuel:	16 tons
Radius:	5,500 miles at economical speed
Complement:	34 (4 reserve officers, 9 regular men, 21 reserve men)

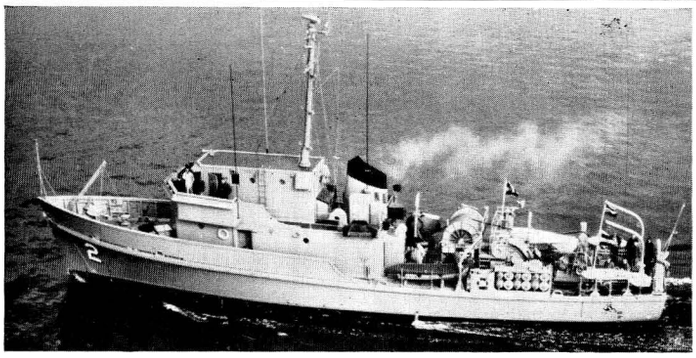
General Notes
Coastal motor minesweepers of wooden construction. All launched in 1942-43. Formerly known as Auxiliary Motor Minesweepers (AMS). Reclassified as Minesweepers, Coastal (old), MSC(O), in Feb. 1955. All out of commission, in reserve. *Magpie* (AMS 25) and *Partridge* (AMS 31) of this class struck floating mines and sank off the Korean east coast on 1 Oct. 1950 and 2 Feb. 1951, respectively. *Bobolink, Bunting, Gull, Merganser, Redhead, Sanderling* and *Waxbill* were converted into coastal minehunters in 1954-55. The eleven surviving boats of this formerly very numerous class were assigned to the mine warfare selected reserve program in 1960 with reserve crews.

Appearance Notes
Only one-funnelled boats of this class now remain on the list, the two-funnelled boats and the no-funnel boats having been stricken, see below.

Transfer Notes
Chatterer, Condor, Firecrest, Heron, Osprey, Pelican and *Swallow* were transferred to Japan in 1955. Many units of this type will be found also in other navies. *Curlew, Kite* and *Mockingbird* were loaned to Korea on 6 Jan. 1956. Sister ships *Hummer*, MSCO 20, and *Lark*, MSCO 23, were transferred to Japan in 1959. *Cardinal*, MSCO 4, and *Egret*, MSCO 46, were transferred to Brazil at Charleston, S.C., on 15 Aug. 1960 under MDAP.

Recent Disposals
Sister ships *Albatross*, MSCO 1, and *Hawk*, MSCO 17, were stricken from the Navy List in 1958. *Redpoll*, MSCO 57, was stricken on 1 July 1959. *Cardinal*, MSCO 4, *Courser*, MSCO 6, *Crow*, MSCO 7, *Flamingo*, MSCO 11, *Goldfinch*, MSCO 12, *Grosbeak*, MSCO 14, *Hornbill*, MSCO 19, *Ostrich*, MSCO 29, *Swan*, MSCO 37, *Verdin*, MSCO 38, *Barbet*, MSCO 41, *Brambling*, MSCO 42, *Brant*, MSCO 43, *Courlan*, MSCO 44, *Crossbill*, MSCO 45, *Egret*, MSCO 46, *Lapwing*, MSCO 48, *Nightingale*, MSCO 50, *Rhea*, MSCO 52, and *Seagull*, MSCO 55, were stricken on 1 Nov. 1959. *Flicker*, MSCO 9, and *Jackdaw*, MSCO 21, were stricken on 1 Jan. 1960.

INSHORE MINESWEEPERS (MSI)



CAPE — 1960, *courtesy Mr. W. H. Davis*

2 "Cove" Class

MSI 1 COVE — **MSI 2 CAPE**

Displacement:	120 tons *light* (249 tons *full load*)
Dimensions:	111¾ × 23 × 5½ (10 *max.*) feet
Machinery:	2 G.M. diesels. 1 shaft. B.H.P.: 650=12 kts.
Complement:	21 (3 officers, 18 men)

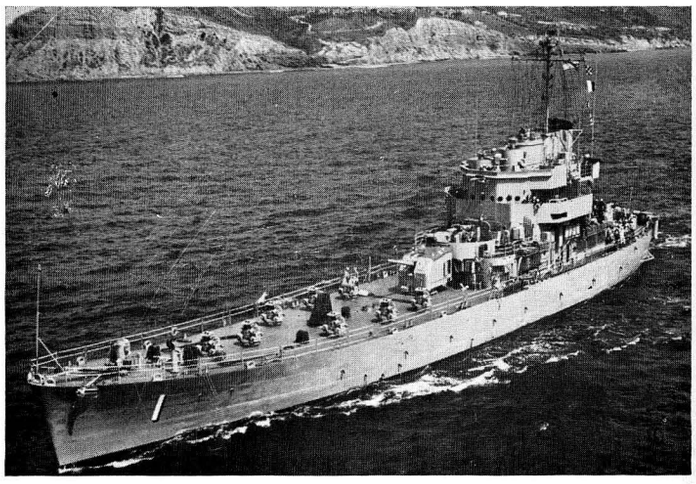
General Notes
Provided under the 1956 Naval Appropriations. Prototype to replace MSCs on inshore minesweeping duties. Similar in mission and construction to Minesweeping Boats (MSB), see later page, but considerably larger. Both built at the Bellingham Shipyards Co., Bellingham, Washington. Cost $750,000 plus $350,000 for equipment. In Pacific Fleet.

Building Notes
Laid down on 1 Feb. 1957 and 1 May 1957, respectively, launched on 8 Feb. 1958 and 5 Apr. 1958 and placed in service on 20 Nov. 1958 and 27 Feb. 1959, respectively.

MDAP Program
MSI 55-101 were built under the off-shore procurement program for MDAP

Photograph Notes
A larger port broadside view of *Cove* appears in the 1959-60 edition.

INSHORE FIRE SUPPORT SHIP



CARRONADE — 1960, *United States Navy, Official*

Amphibious Cruiser Type

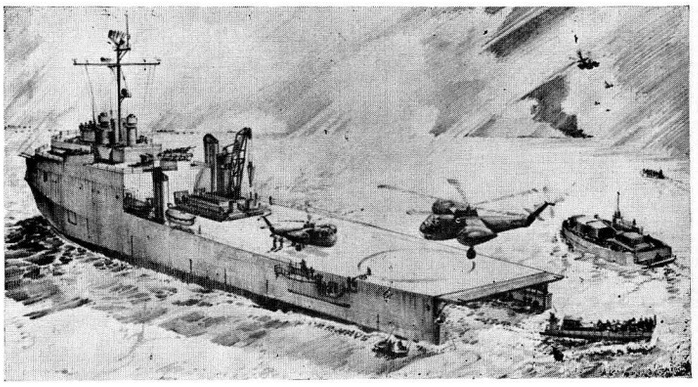
IFS 1 CARRONADE

Displacement:	1,040 tons *light* (1,500 tons *full load*)
Dimensions:	245 × 39 × 10 feet
Guns:	1—5 inch; 8 rocket throwers
Machinery:	Fairbanks-Morse diesels. 2 shafts, geared drive, twin screws with variable pitch. B.H.P.: 3,100=15 kts.
Complement:	162

General Notes
A new type of naval vessel popularly known as the "bobtailed cruiser," into which the latest improvements in shipboard habitability have been built. Designed to support troops in amphibious landings. Main armament comprises rapid fire rocket launchers. Built by Puget Sound Bridge & Dredging Co. Keel laid on 19 Nov. 1952. Launched on 26 May 1953. Commissioned on 25 May 1955. Decommissioned in 1960.

Photograph Notes
A larger starboard quarter oblique aerial view of *Carronade* appears in the 1956-57 to 1959-60 editions.

DOCK AMPHIBIOUS TRANSPORTS (LPD)



RALEIGH (artist's conception) — 1960, *United States Navy, Official*

3 New Construction

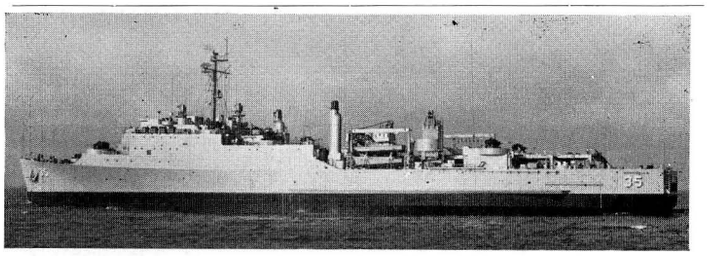
LDP 1 RALEIGH — **LPD 2** — **LPD 3**

Displacement:	7,800 tons
Dimensions:	Length: 510 feet
Aircraft:	6 large transport helicopters
Landing Craft:	1 large (LCU) and 3 small
Machinery:	Speed=20 kts.

Notes
Raleigh was authorised under the Fiscal Year 1959 New Construction Program. Under construction at New York Naval Shipyard. Laid down on 23 June 1960. To be launched about June 1961 and commissioned about Oct. 1961. This new Amphibious Transport Dock will have a new type of hull combining features of both an attack transport and an attack cargo ship with the basic hull of the "Thomaston" class LSDs. She will carry landing craft in a covered well, the roof of which will be a helicopter landing platform, and will launch her landing craft from either floating or roll on/roll off when in stopped position, or when moving by floating out of the well. She can accommodate 900 troops and their equipment.

LPD 2, authorised under the Fiscal Year 1960 Program, will be laid down about Nov. 1960, also at New York Naval Shipyard. To cost $29,000,000. LPD 3 was requested in the Fiscal Year 1961 Program. To cost $41,000,000.

DOCK LANDING SHIPS (LSD)



MONTICELLO — 1960, *United States Navy, Official*

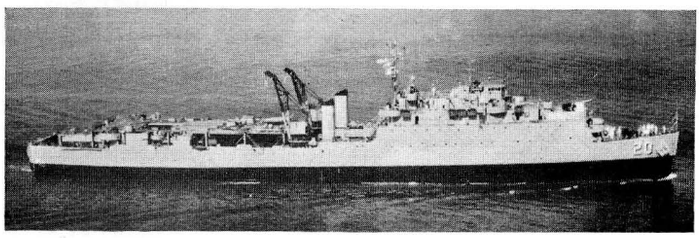
8 "Thomaston" Class

LSD	LSD
28 THOMASTON (9 Feb. 1954)	**32 SPIEGEL GROVE** (10 Nov. 1955)
29 PLYMOUTH ROCK (7 May 1954)	**33 ALAMO** (20 Jan. 1956)
30 FORT SNELLING (16 July 1954)	**34 HERMITAGE** (12 June 1956)
31 POINT DEFIANCE (28 Sep. 1954)	**35 MONTICELLO** (10 Aug. 1956)

Displacement:	6,880 tons *light* (11,270 tons *full load*) *Alamo*, *Hermitage*, *Monticello* and *Spiegel Grove:* 12,150 tons *full load*
Dimensions:	510 (*o.a.*) × 84 × 19 (*max.*) feet
Guns:	16—3 inch, 50 cal., 6—20 mm. AA.
Machinery:	Steam turbines. 2 shafts. S.H.P.: 23,000=24 kts.
Boilers:	2
Complement:	300

General Notes
Same general design as earlier types, but larger and faster. Built by Ingall's Shipbuilding Corporation, Pascagoula, Mississippi. Fitted with helicopter landing platforms, and two 50 ton cranes. 21 LCM (6) can be carried. Launch dates above.

Photograph Notes
A larger starboard bow oblique aerial view of *Thomaston* appears in the 1955-56 to 1959-60 editions.



DONNER — 1960, *United States Navy, Official*

13 "Cabildo" Class

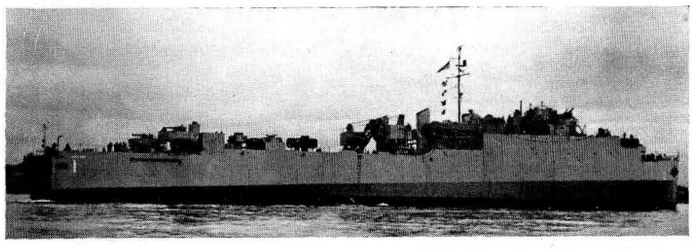
LSD	LSD
16 CABILDO (28 Dec. 1944)	**22 FORT MARION** (22 May 1945)
13 CASA GRANDE (ex-*Spear*, ex-*Portway*, 11 Apr. 1944)	**14 RUSHMORE** (ex-*Sword*, ex-*Swashway*, 10 May 1944)
17 CATAMOUNT (27 Jan. 1945)	**25 SAN MARCOS** (10 Jan. 1945)
18 COLONIAL (28 Feb. 1945)	**15 SHADWELL** (ex-*Tomahawk*, ex-*Waterway*, 24 May 1944)
19 COMSTOCK (28 Apr. 1945)	
20 DONNER (6 Apr. 1945)	**26 TORTUGA** (21 Jan. 1945)
21 FORT MANDAN (1945)	**27 WHETSTONE** (18 July 1945)

Displacement:	4,790 tons *standard* (9,375 tons *full load*)
Dimensions:	457¾ (*o.a.*) × 72½ × 18 (*max.*) feet
Guns:	8 or 12—40 mm. AA.
Machinery:	Geared turbines. 2 shafts S.H.P.: 7,000=15·4 kts.
Boilers:	2 two-drum single pass
Complement:	240

General Notes
Built by Newport News, Gulf S.B. Corpn. and Navy Yards. Similar to "Ashland" class. Can carry 3 LSUs or 18 LCMs. In this class and "Ashland" class below the 5-inch gun and all 20 mm. guns have been removed. (*Fort Snelling*, LSD 23, is now the cargo ship *Taurus*, T-AK 273, see later page.)

Conversion Notes
Colonial, LSD 18, and *Fort Mandan*, LSD 21, were converted under the FRAM Mark II Program in 1960. *Donner*, LSD 20, and *Shadwell*, LSD 15, are fitted as amphibious assault carriers for marine helicopter operations.

Photograph Notes
A larger starboard quarter view of *Rushmore* appears in the 1952-53 to 1959-60 editions, and photographs of *Catamount* and *Fort Mandan* appear in the 1947-48 to 1951-52 editions.



ASHLAND — 1960, *United States Navy, Official*

7 "Ashland" Class

LSD	LSD
1 ASHLAND (21 Dec. 1942)	**5 GUNSTON HALL** (1 May 1943)
2 BELLE GROVE (17 Feb. 1942)	**6 LINDENWALD** (11 June 1943)
3 CARTER HALL (4 Mar. 1943)	**7 OAK HILL** (25 June 1943)
4 EPPING FOREST (2 Apr. 1943)	

Displacemen :	4,790 tons *standard* (8,700 tons *limit*) *Gunston Hall* and *Lindenwald*, 5,380 tons *standard*, 9,200 tons *full load*
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72 × 18 feet
Guns:	8 or 12—40 mm. AA.
Machinery:	2 Skinner Unaflow engines. 2 shafts. I.H.P.: 7,400=15·6 kts.
Boilers:	2, of 2-drum type
Complement:	326 (total accommodation)

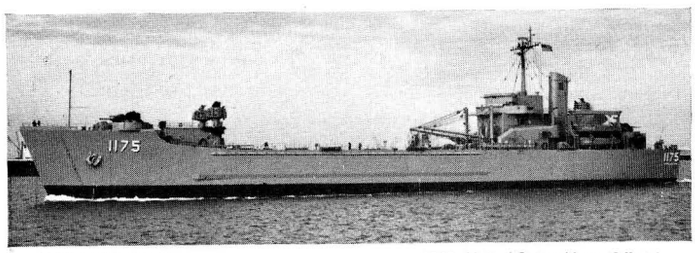
General Notes
All built by Moore Dry Dock Co. Designed to serve as parent ships to landing craft and coastal craft. *Gunston Hall* and *Lindenwald* were adapted to Arctic service in 1949. All carry 18 flat nosed LCMs (Landing Craft Medium) or 3 LCUs in thier well-decks running three-quarters of their length. Length of well 392 feet, length of well in open 252 feet, width of well 44 feet. In each LCM a smaller LCVP (Landing Craft, Vehicle-Personnel) can be carried. *Ashland* and others are fitted with helicopter landing platform over the well-deck. Similar type to "Cabildo" class, see above, but differently propelled. *Lindenwald* was transferred to MSTS in Dec. 1956, redesignated USNS and guns removed, but was recommissioned in the Atlantic Fleet on 1 July 1960 and rearmed.

Conversion Notes
Oak Hill, LSD 7, was converted under the FRAM Mark II Program in 1960. *Ashland*, LSD 1, was to have been converted into a seaplane tender, AV, for P6M jet Seamaster seaplanes, under the Fiscal Year 1959 program and the contract was awarded to the Philadelphia Naval Shipyard in Mar. 1959; but work was stopped in Oct. 1959 owing to the cancellation of the Seamaster Program.

Transfer Notes
White Marsh, LSD 8, was transferred to Taiwan China on 15 Nov. 1960 under the Mutual Defense Assistance Program.

Photograph Notes
A larger port bow view of *White Marsh* appears in the 1952-53 to 1959-60 editions.

TANK LANDING SHIPS (LST)



YORK COUNTY — 1960, *United States Navy, Official*

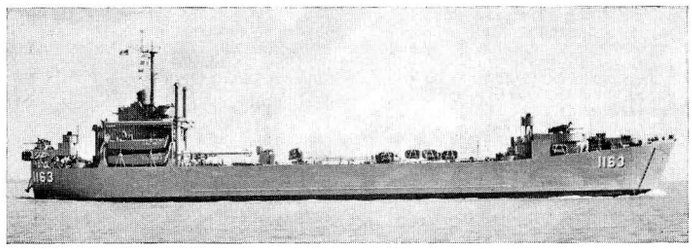
7 "Suffolk County" Class

LST	LST
1171 DE SOTO COUNTY (28 Feb. 1957)	**1176 GRAHAM COUNTY** (19 Sep. 1957)
1173 SUFFOLK COUNTY (5 Sep. 1956)	**1177 LORAIN COUNTY** (22 June 1957)
1174 GRANT COUNTY (12 Oct. 1956)	**1178 WOOD COUNTY** (14 Dec. 1957)
1175 YORK COUNTY (5 Mar. 1957)	

Displacement:	4,164 tons *light* (8,000 tons *full load*)
Dimensions:	442 (*o.a.*) × 62 × 18 feet
Guns:	6—3 inch, 50 cal. (in twin mounts)
Machinery:	Diesel (*Graham County* four Nordberg, two per shaft, variable pitch propellers; other six have six engines, three per shaft.) H.P.: 14,400=17 kts.
Complement:	124 (8 officers, 116 men)

General Notes
Under the 1954 Fiscal Year New Construction Program a $14,000,000 contract was awarded to Boston Naval Shipyard for a prototype LST (1173). Cost included plans and development work. Greater speed, size and troop-carrying capacity than conventional LSTs. Contracts for 6 more LSTs, 1177, 1178, to American Shipbuilding Co., Lorrain, Ohio, 1171, 1174 to Avondale Marine Ways, New Orleans, Louisiana, 1175, 1176 to Newport News Shipbuilding & Dry Dock Co., Virginia. Contract for LST 1172 not awarded. *Suffolk County* commissioned on 15 Aug. 1957, *De Soto County* on 10 June 1958, *Graham County* on 14 Apr. 1958, *Lorain County* on 30 Aug. 1958, *Wood County* on 5 Aug. 1959. Can carry 700 troops and 20 amphibious vehicles. Ships are air-conditioned. Launch dates above.

Photograph Notes
A larger port broadside aerial view of *Suffolk County* appears in the 1959-60 editions.



WALDO COUNTY — 1960, *United States Navy, Official*

15 "LST 1156-1170" Series

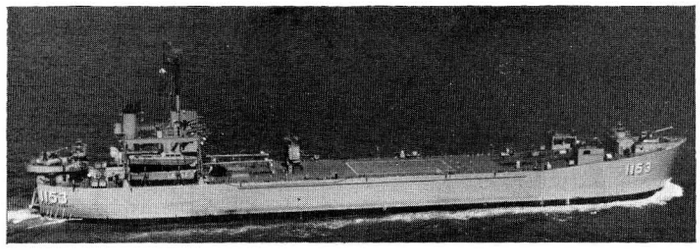
LST	LST
1155 TERREBONNE PARISH	**1164 WALWORTH COUNTY**
1157 TERRELL COUNTY	**1165 WASHOE COUNTY**
1158 TIOGA COUNTY	**1166 WASHTENAW COUNTY**
1159 TOM GREEN COUNTY	**1167 WESTCHESTER COUNTY**
1160 TRAVERSE COUNTY	**1168 WEXFORD COUNTY**
1161 VERNON COUNTY	**1169 WHITFIELD COUNTY**
1162 WAHKIAKUM COUNTY	**1170 WINDHAM COUNTY**
1163 WALDO COUNTY	

Displacement:	2,590 tons *light* (5,800 tons *full load* (*max.*) for trials)
Dimensions:	384 (*o.a.*) × 55 × 12 11/16 (*mean* draught under *max.* load), 17 (*max.*) feet
Guns:	3—3 inch, 50 cal. and 20 mm. AA.
Machinery:	Four General Motors diesel engines 2 shafts. Controlled pitch propellers B.H.P.: 6,000=15 kts.
Complement:	116

General Notes
Design is modification of that of two experimental ships constructed during the Second World War. LST 1156 was launched on 9 Aug. 1952, 1158 on 11 Apr. 1953, 1163 on 17 Mar. 1953, 1156-1160 were built by Bath Iron Works, 1166-1170 by Christy Corporation, and 1161-1165 by Ingalls' Shipbuilding Corporation.

Photograph Notes
A larger port quarter surface view of *Tioga County* appears in the 1954-55 to 1959-60 editions.

Tank Landing Ships (LST)—*continued*



TALBOT COUNTY (steam type) 1960, *United States Navy, Official*

2 Steam Type

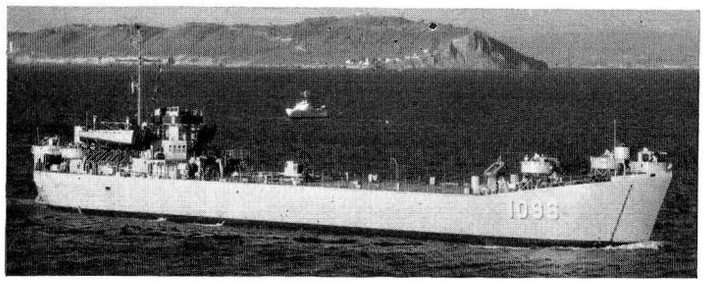
LST 1153 TALBOT COUNTY **LST 1154 TALLAHATCHIE COUNTY**

Displacement:	2,324 tons (6,000 tons *full load*)
Dimensions:	368 (*w.l.*), 382 (*o.a.*) × 54 × 14½ (17 *max.* feet)
Guns:	2—5 inch, 38 cal., 4—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,000 = 14 kts.
Complement:	82

General Notes
Built by Boston Navy Yard. *Talbot County* was launched on 24 Apr. 1947 and completed on 3 Sep. 1947; *Tallahatchie County* was launched on 19 July 1946 and completed on 9 June 1949. They are the only steam powered LSTs. This type can carry 4 small landing craft and has increased troop accommodation, greater tank, vehicle and cargo capacity and improved arrangements for discharge, compared with the " LST 1-1152 " class.

Conversion Notes
Tallahatchie County is being converted to an advanced aviation base ship, AVB, at the Naval Shipyard, Charleston, S.C., under the Fiscal Year 1960 conversion program.

Photograph Notes
A larger starboard broadside surface view of *Talbot County* appears in the 1959-60 and earlier editions.



ST. CLAIR COUNTY 1960, *United States Navy, Official*

60 LST 511-1152 Series

LST	LST
515 CADDO PARISH	**AG 157 (ex-LST 857) KING COUNTY**
519 CALHOUN COUNTY	**898 LINCOLN COUNTY**
525 CAROLINE COUNTY	**901 LITCHFIELD COUNTY**
529 CAYUGA COUNTY	**902 LUZERNE COUNTY**
532 CHASE COUNTY	**905 MADERA COUNTY**
533 CHEBOYGAN COUNTY	**912 MAHNOMEN COUNTY**
551 CHESTERFIELD COUNTY	**938 MARICOPA COUNTY**
583 CHURCHILL COUNTY	**975 MARION COUNTY MSTS**
601 CLARKE COUNTY	**980 MEEKER COUNTY**
602 CLEARWATER COUNTY (USAF)	**983 MIDDLESEX COUNTY**
603 COCONINO COUNTY	**1032 MONMOUTH COUNTY**
692 DAVIESS COUNTY (USAF)	**1066 NEW LONDON COUNTY**
715 DE KALB COUNTY	**1067 NYE COUNTY**
722 DODGE COUNTY	**MCS 6 (ex-LST 1069) ORLEANS PARISH**
742 DUNN COUNTY	**1073 OUTAGAMIE COUNTY**
758 DUVAL COUNTY	**1076 PAGE COUNTY**
762 FLOYD COUNTY	**1077 PARK COUNTY**
786 GARRETT COUNTY	**1082 PITKIN COUNTY**
799 GREER COUNTY	**1083 PLUMAS COUNTY**
819 HAMPSHIRE COUNTY	**1084 POLK COUNTY**
821 HARNETT COUNTY	**1088 PULASKI COUNTY**
822 HARRIS COUNTY MSTS	**1096 ST. CLAIR COUNTY**
824 HENRY COUNTY	**1122 SAN JOAQUIN COUNTY**
825 HICKMAN COUNTY	**1123 SEDGWICK COUNTY**
836 HOLMES COUNTY	**1126 SNOHOMISH COUNTY**
838 HUNTERDON COUNTY	**1134 STARK COUNTY**
839 IREDELL COUNTY	**1141 STONE COUNTY**
846 JENNINGS COUNTY	**1146 SUMMIT COUNTY**
848 JEROME COUNTY	**1148 SUMNER COUNTY**
854 KEMPER COUNTY	**1150 SUTTER COUNTY**

Displacement:	1,653 tons *standard*, 2,366 *beaching*, 3,960 *rials* (4,080 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 14 (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 11·6 kts.
Cargo capacity:	2,100 tons
Complement:	119 (accommodation for 266)

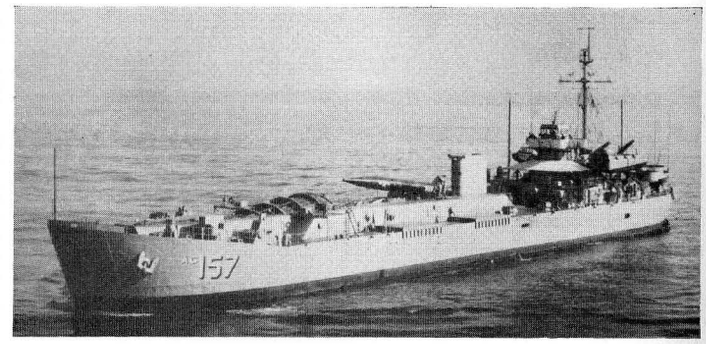
General Notes
All LSTs listed above and on previous page, which previously carried numbers only, were named on 1 July 1955. Following LSTs assigned to MSTS and not named: 30, Japanese-manned, LSTs, 117, 176, 222, 230, 276, 277, 399, 456, 488, 491, 530, 546, 550, 566, 572, 579, 581, 587, 590, 600, 607, 613, 616, 623, 626, 629, 643, 649, 652, 657; three civil service manned LSTs 287, 325, 664, MSTS LSTs (USNS) are not armed. LST 618 was stricken in 1960.

Aircraft Notes
Greer County, LST 799, which served as a mine squadron flagship and carried helicopters, was decommissioned in 1960.

Guided Missile Notes
King County (AGS 157, ex-LST 857) was rigged as a prototype for equipment for handling " Regulus " guided missiles aboard the new submarine *Halibut*. She was fitted with guided missile hangar and " Polaris " launching equipment and acted as a missile training ship for submarine crews with the Naval Air Missile Test Centre, Pt. Mugu, Calif., with handling, launching and storage facilities. She decommissioned on 30 June 1960.

Conversion Notes
Dunn County, LST 742, *Holmes County*, LST 836, *Polk County*, LST 1084, and *Sumner County*, LST 1148, were converted under the FRAM Mark II program in 1960.

Tank Landing Ships—*continued*



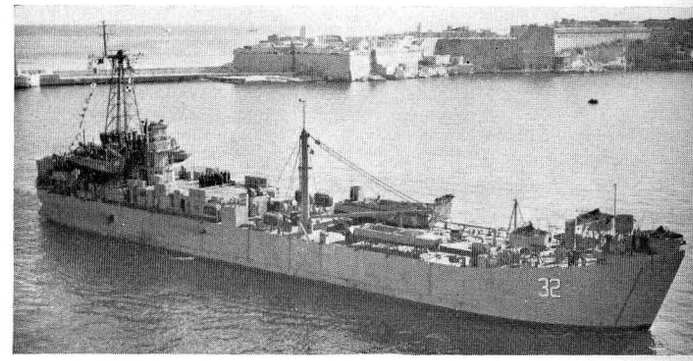
KING COUNTY (carrying guided missile and launching equipment) *Official*

Photograph Notes
A larger photograph of *King County* appears in the 1959-60 edition, a larger port bow oblique aerial view of *St. Clair County* in the 1958-59 and 1959-60 editions, and a larger starboard bow view of *Sublette County* in the 1954-55 to 1957-58 editions.

Reclassification Notes
King County was reclassified from LST 857 to AG 157 on 17 May 1958. *Orleans Parish* was reclassified from LST 1069 to MCS 6 on 19 Jan. 1959.

Transfer Notes
LST 53, unnamed, was transferred to Korea as a Barracks Ship. LST 1010 was transferred to Korea on 22 Mar. 1955. LST 279 *Berkeley County* and LST 400 *Bradley County* were transferred to Nationalist China. LST 288 *Berkshire County* was transferred to Korea on 5 Mar. 1956. LST 31 *Addison County*, LST 57 *Armstrong County*, LST 482 *Branch County*, LST 483 *Brewster County* and LST 504 *Buchanan County* were stricken from the Navy List on 11 Aug. 1955 and used as targets. LST 840 *Iron County*, LST 859 *Lafayette County*, LST 1110 *San Bernardino County*, LST 1091 *Sagadahoe County* and LST 1152 *Sweetwater County* were transferred to Nationalist China in 1958. LST 849 *Johnson County*, LST 853 *Kane County*, LST 900 *Lynn County* and LST 1080 *Pender County* were transferred to the South Korean Navy in 1958. *Solano County*, LST 1128, was transferred to Indonesia in 1960. *Hamilton County*, LST 802, was sold to Japan in 1960.

Recent Disposals
LST 512 *Burnett County* disposal approved Feb. 1957 and she was transferred (sold) to Peru in 1958. LST 521, 542, 602, 692, 822, 975, 1048, 1071, 1079 are operated by MSTS, having been decommissioned in 1956 and their guns removed (LST 602, 692, 1072 were loaned to the Air Force from MSTS in 1957). LST 988 *Mineral County* was stripped, and destroyed as a target for gunfire. LST 772 *Ford County*, LST 855 *Kent County* and LST 1068 *Orange County* were also disposed of at the end of 1957, and LST 527 *Cassia County*, LST 803 *Hampden County* and LST 827 *Hillsborough County* were disposed of in 1958. LST 561 *Chittenden County* was disposed of owing to the expense of repairing her after her grounding at Kanai, T.H., in Mar. 1958. She was salvaged after stranding, but was decommissioned on 2 June 1958, stricken from the Navy List on 27 June 1958 and torpedoed by the submarine *Sargo* off Oahu in Nov. 1958. *Lyman County*, LST 903, and *Lyon County*, LST 904, and others were sunk as targets in 1959. *Calaveras County*, LST 516, *Crook County*, LST 611, *Dukes County*, LST 735, *Eddy County*, LST 759, *Esmeralda County*, LST 761, *Garfield County*, LST 784, *Gibson County*, LST 794, were stricken from the Navy List in 1959. *Cape May County*, LST 521, *Catahoula Parish*, LST 528, *Chelan County*, LST 542, *Curry County*, LST 685, *Daggett County*, LST 689, *Douglas County*, LST 731, *Hamilton County*, LST 802, *Hillsdale County*, LST 835, *Juniata County*, LST 850, *Lake County*, LST 880, *Lamoure County*, LST 883, *Lawrence County*, LST 887, *Lee County*, LST, 888, *Mahoning County*, LST 914, *Marinette County*, LST 953, *Monroe County*, LST 1038, *Morgan County*, LST, 1048, *Nansemond County*, LST 1064, *Ouachita County*, LST 1071, *Overton County*, LST 1074, *Payette County*, LST 1079, *Pima County*, LST 1081, *Potter County*, LST 1086, *Rice County*, LST 1089, *Russell County*, LST 1090, *Saline County*, LST 1101, *Somervell County*, LST 1129, and *Strafford County*, LST 1142, were all stricken between 1 June 1959 and 30 June 1960. *Millard County*, LST 987, *Montgomery County*, LST 1041, and *Sublette County*, LST 1144 were stricken at the end of 1960. *Jefferson County*, LST 845, and *Steuben County*, LST 1138, are also to be disposed of.



ALAMEDA COUNTY *Added* 1960, *A. & J. Pavia*

3 LST 1-510 Series

AVBI (ex-*LST* 32) **ALAMEDA COUNTY** **LST**
344 BLANCO COUNTY
509 BULLOCH COUNTY

Displacement:	1,625 tons *light*, 2,366 tons *beaching* (4,050 tons *full load*)
Dimensions:	328 (*o.a.*) × 50 × 14½ (*max.*) feet
Guns:	7—40 mm. AA., 2—20 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,700 = 10·8 kts.
Complement:	80 to 119 (plus 147 troops)

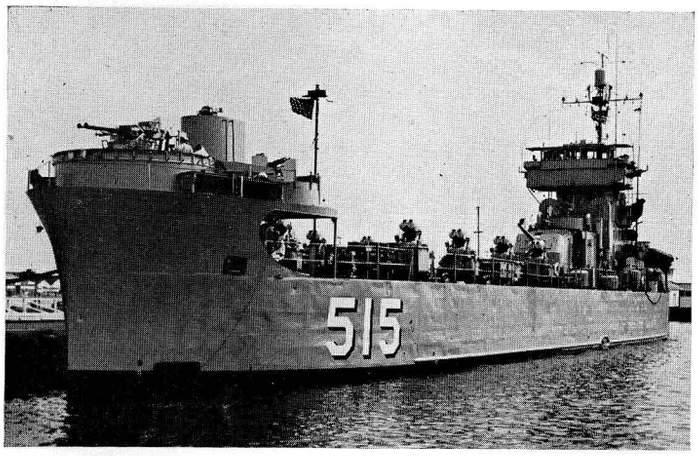
General Notes
These ships are ocean tank carriers with bow doors. In the Second World War LST 32 was fitted with railway lines on the tank deck to enable her to transport trucks from Sicily to the mainland. She was converted to Naval Air Force, Atlantic, Flagship in 1953. Fitted for advanced base air support, she carries 2 LCM on deck. LST 291 was stricken after grounding in 1954. LST 503 was transferred to Nationalist China on 29 Apr. 1955.

Reclassification Notes
Alameda County was reclassified from LST 32 to AVB 1 (Advance Aviation Base Ship) on 28 Sep. 1957.

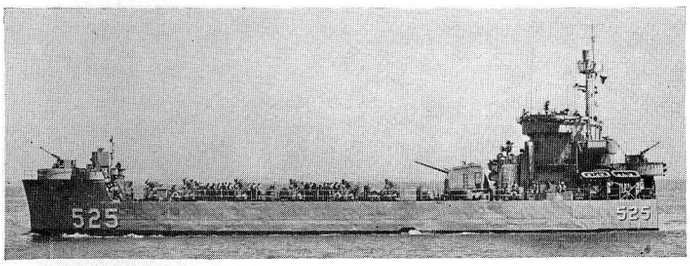
Photograph Notes
A larger starboard quarter view of *Alameda County* appears in the 1954-55 to 1959-60 editions.

Recent Disposals
Atchison County, LST 60, *Bamberg County*, LST 209, *Benton County*, LST 263, *Benzie County*, LST 266, *Bernalillo County*, LST 306, *Bledsoe County*, LST 356, *Boone County*, LST 389, *Bowman County*, LST 391, and *Buncombe County*, LST 510, were stricken on 1 June 1959 and 30 June 1960.

MEDIUM LANDING SHIPS (ROCKET)



OWYHEE RIVER *United States Navy, Official*



ST. FRANCIS RIVER 1960, *United States Navy, Official*

13 LSMR 401-412, 501-536 Series

LSMR

401 BIG BLACK RIVER
405 BROADKILL RIVER
409 CLARION RIVER
412 DES PLAINES RIVER
501 ELK RIVER
YV 3 (ex-*LSMR* 508) **TARGETEER** (ex-*Gunnison River*)
512 LAMOILLE RIVER

LSMR

513 LARAMIE RIVER
515 OWYHEE RIVER
522 RED RIVER
525 ST. FRANCIS RIVER
531 SMOKY HILL RIVER
536 WHITE RIVER

Displacement:	994 tons *attack* (1,084 tons *full load*)
Dimensions:	LMSR 401-412: 206½ (*o.a.*), 204½ (*w.l.*) × 34½ × 7⅛ feet LMSR 501-536: 203½ (*o.a.*), 197½ (*w.l.*) × 34½ × 7⅛ feet
Guns:	1—5 inch, 4—4·2 inch mortars, 4—40 mm. AA., 8—20 mm. AA., 10—5 inch rocket projectors
Machinery:	General Motors diesel. 2 shafts. B.H.P.: 2,800 = 12·6 kts.
Complement:	138

General Notes

Modified LSMs. The ten automatic rocket launchers are continuously fed, each firing thirty spin-stabilised 5-inch rockets per minute, a barrage of 300 per clip. All LSMRs were named on 1 Oct. 1955. All out of commission.

Reclassification Notes

Gunnison River, LSMR 508, was reclassified as a Drone Aircraft Catapult Control Craft, YV 3, on 3 May 1960, and will replace YV 1. She was renamed *Targeteer* on 26 June 1960.

Photograph Notes

A larger port bow view of *Owyhee River* appears in the 1959-60 edition, a larger starboard bow oblique aerial view of *Blackstone River* in the 1957-58 edition, a larger starboard broadside surface view of *St. Joseph River* in the 1953-54 to 1959-60 editions, a larger port broadside surface view of LSM 297 in the 1957-58 and 1958-59 editions, and a larger port bow oblique aerial view of LSM 458 in the 1952-53 to 1957-58 editions.

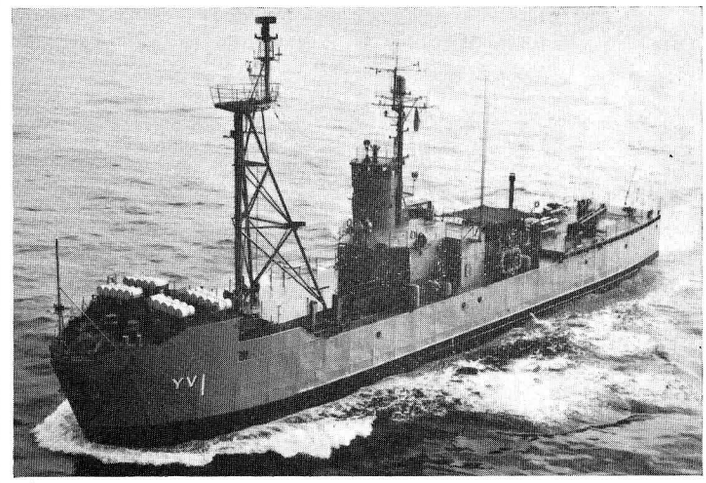
Transfer Notes

Smyrna River, LSMR 532, and *Thames River*, LSMR 534, were transferred to the West German Navy on 5 Sep. 1958. *St. Joseph River*, LSMR 527, was transferred to the Korean Navy in 1960.

Recent Disposals

Big Horn River, LSMR 402, *Blackstone River*, LSMR 403, *Black Warrior River*, LSMR 404, *Chariton River*, LSMR 407, *Charles River*, LSMR 408, *Escalante River*, LSMR 502, *Flambeau River*, LSMR 503, *Grand River*, LSMR 505, *Green River*, LSMR 506, *Greenbrier River*, LSMR 507, *Holston River*, LSMR 509, *Pearl River*, LSMR 516, *Pit River*, LSMR 518, *Powder River*, LSMR 519, *Rainy River*, LSMR 521, *St. Croix River*, LSMR 524, *St. Johns River*, LSMR 526, *St, Mary's River*, LSMR 528, *Salmon Falls River*, LSMR 530, *Snake River*, LSMR 533, and *Trinity River*, LSMR 535, were stricken from the Navy List in 1959. *Canadian River*, LSMR 406, *Clark Fork River*, LSMR 410, *Cumberland River*, LSMR 411, *Gila River*, LSMR 504, *James River*, LSMR 510, *John Day River*, LSMR 511, *Maurice River*, LSMR 514, *Pee Dee River*, LSMR 517, *Raccoon River*, LSMR 520, *Republican River*, LSMR 523, and *St. Regis River*, LSMR 529, were stricken on 1 Feb. 1960.

MEDIUM LANDING SHIPS (LSM)



CATAPULT 1960, *United States Navy, Official*



KODIAK 1960, *United States Navy, Official*

7 LSM 1-558 Series

CATAPULT (YV 1, ex-LSM 445)
HUNTING (EAG 398, ex-LSM 398)
LAUNCHER (YV 2, ex-LSM 446)

LSM 161 KODIAK
LSM 175 OCEANSIDE
LSM 335 (USNS)
LSM 463 (USNS)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8⅓ feet
Guns:	2—40 mm. AA.
Machinery:	Diesel direct drive. 2 shafts. B.H.P.: 2,800 = 12·5 kts.
Complement:	59

General Notes

Four in service, plus three others converted for special purposes. Can carry 5 medium tanks. Some are fitted with Kirsten cycloidal propellers, enabling ships to turn 360 degrees and remain in same position. LSM 335 and LSM 463 are assigned to MSTS. LSM 161, 175, 373 and 540 were named on 14 Oct. 1959.

Reclassification Notes

LSM 445 and LSM 446 were reclassified as Drone Aircraft Catapult Control Vessels and redesignated YV1 and YV2 on 30 Aug. 1954 and renamed *Catapult* and *Launcher* on 1 June 1957. *Catapult* decommissioned in 1960 and will probably be disposed of with *Launcher*.

Experimental Notes

LSM 398 was reclassified as EAG 398 in Dec. 1956 and named *Hunting* on 13 July 1957. LSM 444 was transferred to the Atomic Energy Commission on an indefinite loan basis in 1957 and subsequently named *Aloto*. (She was returned to the U.S. Navy in 1960 and loaned to Chile.)

Photograph Notes

A larger port quarter oblique aerial view of *Lakeland*, LSM 373, appears in the 1959-60 edition, a larger port broadside surface view of LSM 297 in the 1957-58 and 1958-59 editions, and a larger port bow oblique aerial view of LSM 458 in the 1952-53 to 1957-58 editions.

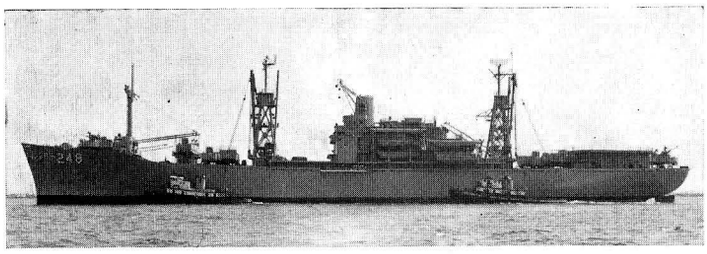
Transfer Notes

LSMs 17, 19, 30, 54, 57, 84, 96, 268, 316, 419, 462, and 546 were loaned to Korea in 1956. LSM 491, LSM 537, LSM 553 and LSM 558 were transferred to West Germany on 15 Aug. 1959 (first two) and 5 Sep. 1958 (other two). LSM 472 and LSM 474 were transferred to Nationalist China at Seattle on 3 Feb. 1959. LSM 539 and LSM 555 were sold to Ecuador in 1959. LSM 444, *Aloto*, was loande to Chile in 1960.

Recent Disposals

All LSMs were stricken from the Navy List in 1957 except 13 LSMs and the two YVs; but LSM 455, 491, 533, 537, 541, 557 and 558 were stricken in 1958-59, and *Lakeland*, LSM 373, and *Raritan*, LSM 540, in 1960.

ATTACK TRANSPORTS



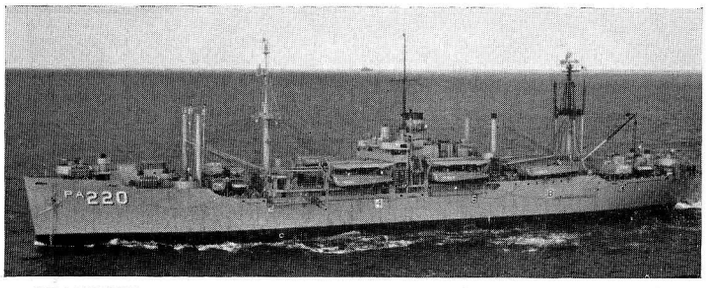
PAUL REVERE 1960, *United States Navy, Official*

2 "Paul Revere" Class

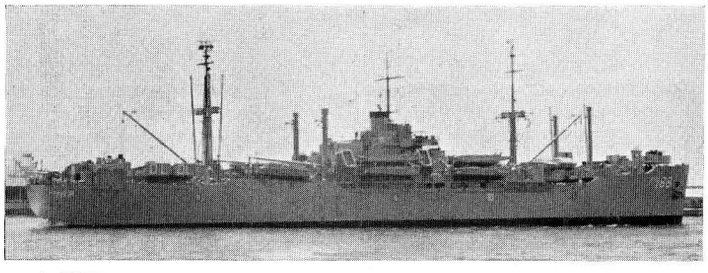
APA 249 FRANCIS MARION (ex-*SS Prairie Mariner*, MA 29)
APA 248 PAUL REVERE (ex-*SS Diamond Mariner*)

Displacement:	10,709 tons *Navy light* (18,000 tons *full load*)
Measurement:	16,838 tons *gross*
Dimensions:	528 (*pp.*), 563½ (*o.a.*) × 76 × 24½ feet
Guns:	4—3 inch
Machinery:	General Electric geared turbines. 1 shaft. S.H.P.: 19,250 = 20 kts.
Complement:	414 (35 officers, 379 men)

General Notes
Paul Revere is a "Mariner" type C4-S-1 cargo vessel converted into an Attack Transport, APA, by Todd Shipyard Corp., San Pedro, Calif., under the 1957 Fiscal Year Conversion Program. Contract was awarded in Aug. 1956. Commissioned on 3 Sep. 1958 and completed on 29 Sep. 1958. She has accommodation for a 1,500 strong Marine Battalion, a helicopter platform on the stern for troop helicopters, and is fitted as an Amphibious Command Flagship.
Francis Marion was a similar "Mariner" type hull converted into an APA by Bethlehem Steel, Key Highway Yard, Baltimore, Md., under the Fiscal Year 1959 Program (conversion started on 13 Apr. 1959). Both ships were originally built by New York Shipbuilding Corporation, Camden, *Francis Marion* in 1954 and *Paul Revere* in 1953.



OKANOGAN 1960, *United States Navy, Official*



OLMSTED *P. Billson*

22 "Haskell" Class

APA	APA	APA
237 BEXAR	**156 MELLETTE**	**188 OLMSTED**
136 BOTETOURT	**201 MENARD**	**222 PICKAWAY**
235 BOTTINEAU	**212 MONTROSE**	**224 RANDALL**
239 GLYNN	**213 MOUNTRAIL**	**227 RENVILLE**
152 LATIMER	**215 NAVARRO**	**228 ROCKBRIDGE**
195 LENAWEE	**218 NOBLE**	**193 SANBORN**
199 MAGOFFIN	**220 OKANOGAN**	**204 SARASOTA**
		208 TALLADEGA

Displacement:	6,720 tons *light*, (12,450 tons *full load*)
Dimensions:	436½ (*w.l.*), 455 (*o.a.*) × 62 × 24 (*max.*) feet
Guns:	12—40 mm. AA. (see *Gunnery Notes*)
Machinery:	Geared turbines. S.H.P.: 8,500 = 17·7 kts.
Boilers:	2 Babcock & Wilcox
Complement:	536 (war)

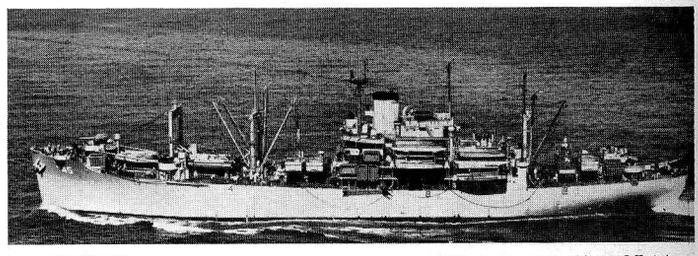
General Notes
VC 2-S-AP 5 "Victory" type, all launched in 1944-45. Hitherto referred to as the "Arenac" class, but officially known in the United States Navy as the "Haskell" class. All have county names. Can Carry 1,560 troops and 3,000 tons of war stores.

Gunnery Notes
The 5-inch gun has been removed from all units of this class. Scheduled to be replaced by a twin 3-inch, 50 cal., rapid fire mount, but none installed at present.

Photograph Notes
Larger photographs of *Pickaway* in the 1953-54 to 1958-59 editions, and *Olmsted* in the 1959-60 edition.

Recent Disposals
Arenac, 128, *Barnwell*, 132, *Bronx*, 236, *Brookings*, 140, *Clinton*, 144, *Crockett*, 148, *Dane*, 238, *Edgecombe*, 164, *Gage*, 168, *Grimes*, 172, *Kershaw*, 176, *Lavaca*, 180, *Lubbock*, 197, *McCracken*, 198, *Menifee*, 202, *Meriweather*, 203, *Mifflin*, 207, *Missoula*, 211, *Natrona*, 214, *Neshoba*, 216, *New Kent*, 217, *Okaloosa*, 219, *Oneida*, 221, *Rawlins*, 226, *Rockingham*, 229, *Rutland*, 192, *San Saba*, 232, *Sherburne*, 205, *Sibley*, 206, and *Tazewell*, 209 (30 attack transports, APA), were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1959. *Deuel*, 160, *Logan*, 196, *Rockwall*, 230, *Sandoval*, 194, and *Telfair*, 210, were transferred to Maritime Administration custody in 1960. It is officially stated that *Deuel* and *Rockwall* were stricken on 1 Dec. 1958. (60 U.S. Navy Ships are in Maritime Administration custody, including certain oilers, but remain on the Navy List).

Attack Transports—*continued*



HENRICO 1960, *United States Navy, Official*

"6 Bayfield" Class

APA	APA
33 BAYFIELD (ex-*Sea Bass*)	**38 CHILTON** (ex-*Sea Needle*, 24 Dec. 1942)
36 CAMBRIA (ex-*Sea Swallow*)	**44 FREMONT** (ex-*Sea Corsair*, 31 Mar. 1943)
37 CAVALIER (15 Mar. 143)	**45 HENRICO** (ex-*Sea Darter*, 31 Mar. 1943)

Displacement:	8,100 tons *light* (16,100 tons *full load*)
Dimensions:	465 (*w.l.*), 492 (*o.a.*) × 69½ × 26½ (*max.*) feet
Guns:	2—5 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Combustion Engineering type
Complement:	250

General Notes
C3-S-A2 type, formerly with "Sea" names; but subsequently given county names by the United States Navy.

Photograph Notes
A larger starboard broadside surface view of *Chilton* appears in the 1952-53 to 1959-60 editions.



CALVERT *Ted Stone*

2 "Delta" Class

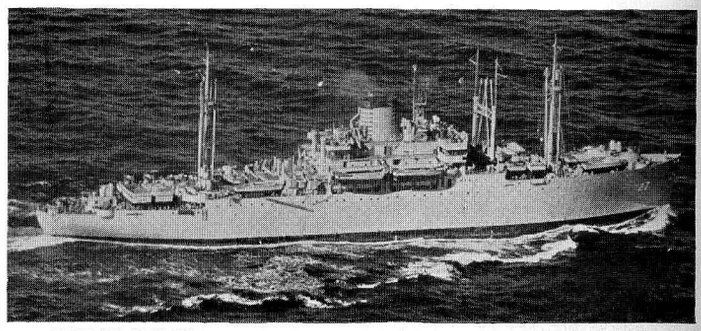
APA	APA
32 CALVERT (ex-*Deloreans*, 29 May 1943)	**31 MONROVIA** (ex-*Delargentino*, 1942)

Displacement:	8,429 tons *light* (14,247 tons *full load*)
Dimensions:	468 (*pp.*), 491 (*o.a.*) × 65½ × 25⅔ (*max.*) feet
Guns:	1—5 inch, 3—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 7,800 = 16 kts.
Boilers:	2 Babcock & Wilcox

General Notes
C 3 Delta type, formerly with "Del" names. Can carry 1,200 troops. Built by Bethlehem, Sparrows Point.

Photograph Notes
A larger starboard broadside surface view of *Monrovia* appears in the 1954-55 to 1957-58 editions.

Recent Disposals
Charles Carroll, APA 28, and *Crescent City*, APA 21, were stricken from the Navy List and transferred to the Maritime Administration Reserve Fleet in 1959.



GEORGE CLYMER *United States Navy, Official*

1 "American" Class

APA
27 GEORGE CLYMER (ex-*African Planet*, *American Farmer*)

Displacement:	10,812 tons *Navy light* (18,000 tons *full load*)
Dimensions:	465 (*w.l.*), 489 (*o.a.*) × 69¾ × 27⅓ feet
Guns:	4—3 inch, 6—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Complement:	512

General Notes
C3-P type. Can carry 27 LCT and 1,400 troops. Fitted as a flagship. Launched in 1941.

Photograph Notes
A larger photograph of *George Clymer* appears in the 1959-60 and earlier editions.

Recent Disposals
Arthur Middleton, APA 25, and *Samuel Chase*, APA 26, of the "American" class, and *President Adams*, APA 19, *President Hayes*, APA 20, *President Jackson*, APA 18, and *Thomas Jefferson* (ex-*President Garfield*), APA 30 (all four ships of the "President" type), were stricken from the Navy List in 1959 and transferred to the Maritime Administration Reserve Fleet.

ATTACK CARGO SHIPS (AKA)



TULARE — 1960, *United States Navy, Official*

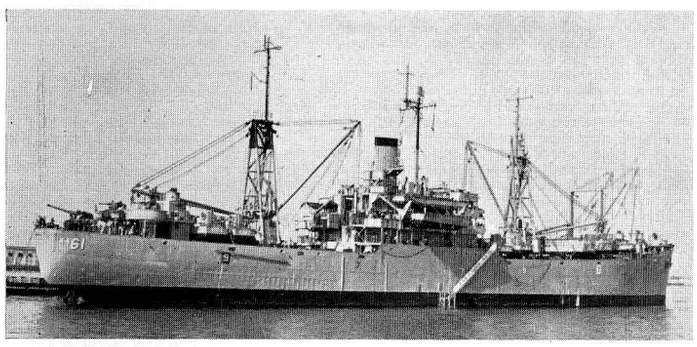
1 "Tulare" Class

AKA
112 TULARE (ex-*Evergreen Mariner*)

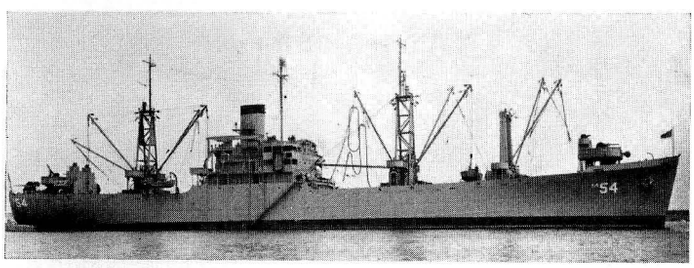
Displacement:	12,000 tons *light* (17,988 tons *full load*)
Measurement:	9,200 tons *gross*, 13,400 tons *deadweight*
Dimensions:	528½ (*pp.*), 564 (*o.a.*) × 76 × 24½ (28 *max.*) feet
Guns:	12—3 inch
Machinery:	Turbine. 1 shaft. S.H.P.: 22,000 = 20 kts.
Complement:	38 officers, 399 men

General Notes
Built by Bethlehem, San Francisco. Laid down on 16 Feb. 1953, launched on 22 Dec. 1953. Acquired by Navy during construction. Commissioned on 13 Jan. 1956. C4-S-1 B type. Has helicopter landing platform and booms capable of lifting 60-ton landing craft. Carries 9 LCM-6 landing craft. Can carry 575 troops and crew, 27 landing craft and 300 vehicles.

Photograph Notes
Larger photographs of *Tulare* appear in the 1957-58 to 1959-60 editions.



MULIPHEN — *Added*, 1960, *Giorgio Arra*



ALGOL — 1960, *United States Navy, Official*

25 "Andromeda" Class

AKA
53 ACHERNAR (22 Dec. 1943)
54 ALGOL (ex-*James Baines*)
55 ALSHAIN (26 Jan. 1944)
15 ANDROMEDA (22 Dec. 1942)
56 ARNEB (ex-*Mischief*)
57 CAPRICORNUS (ex-*Spitfire*)
58 CHARA (15 Mar. 1944)
59 DIPHDA (11 May 1944)
60 LEO (29 June 1944)
95 MARQUETTE (29 Apr. 1945)
96 MATTHEWS (22 Dec. 1944)
97 MERRICK (28 Jan. 1945)

AKA
98 MONTAGUE (11 Feb. 1945)
61 MULIPHEN (26 Aug. 1944)
100 OGLETHORPE (15 Apr. 1945)
99 ROLETTE (11 Mar. 1945)
19 THUBAN (26 Apr. 1943)
88 UVALDE (20 May 44)
20 VIRGO (4 June 1943)
89 WARRICK (29 May 1944)
90 WHITESIDE (12 June 1944)
91 WHITLEY (22 June 1944)
94 WINSTON (30 Nov. 1944)
92 WYANDOT (28 June 1944)
93 YANCEY (8 July 1944)

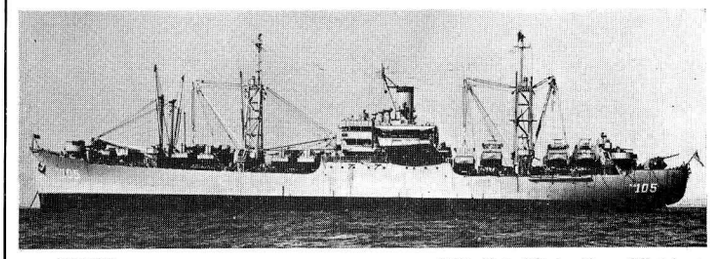
Displacement:	7,430 tons *light* (12,800 tons *full load*)
Dimensions:	435 (*w.l.*), 459½ (*o.a.*) × 63 × 24 (*max.*) feet
Guns:	1—5 inch, 8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 6,000 = 16·4 kts.
Boilers:	2 Foster-Wheeler
Complement:	247

General Notes
C2-S-B1 type. Launch dates above. Can carry over 5,200 tons of cargo and 2,200 tons of tanks. *Arneb* completed refit for Arctic service on 15 Mar. 1949. *Wyandot* is also "winterised" with double hull plating. *Matthews*, *Merrick* and *Rolette* were re-acquired from the Maritime Administration Reserve Fleet by the Navy in 1951, and reactivated. *Leo* is out of commission in reserve. *Winston* decommissioned on 1 Feb. 1957. *Chara* decommissioned in 1958.

Photograph Notes
Larger photographs of *Arneb* and *Matthews* appear in the 1957-58 edition and of *Wyandot* in the 1958-59 and 1959-60 editions.

Recent Disposals
Andromeda, 15, *Chara*, 58, *Leo*, 60, *Uvalde*, 88, *Virgo*, 20, and *Whiteside*, 90, were transferred to the Maritime Administration in 1959-60.

Attack Cargo Ships—*continued*



SKAGIT — 1960, *United States Navy, Official*

6 "Rankin" Class

AKA
103 RANKIN (22 Dec. 1944)
104 SEMINOLE (28 Dec. 1944)
105 SKAGIT (28 Nov. 1944)

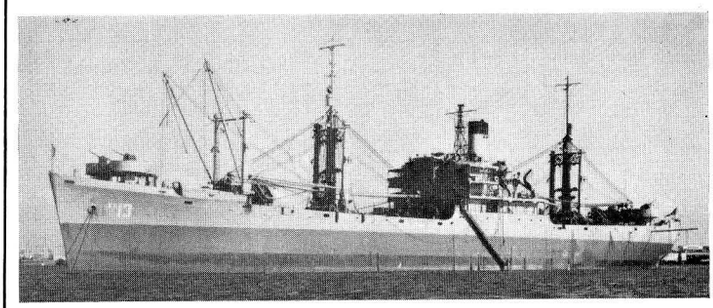
AKA
106 UNION (23 Nov. 1944)
107 VERMILION (12 Dec. 1944)
108 WASHBURN (12 Dec. 1944)

Displacement:	6,45½ tons *Navy light* (14,160 tons *full load*)
Dimensions:	459½ (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	8—40 mm. AA., 10—20 mm. AA. (See *Gunnery Notes*)
Machinery:	Geared turbines. 1 shaft. S.H.P.: 6,000 = 16·5 kts.
Complement:	247

General Notes
C2-S-AJ3 type. Laid down in 1944 and first commissioned in the Navy in 1945. Combat load 4,500 tons.

Gunnery Notes
The 5-inch gun has been removed from all active ships of the "Rankin" and "Andromeda" classes and is scheduled to be replaced with a twin 3-inch gun.

Photograph Notes
A larger port bow view of *Skagit* appears in the 1954-55 to 1959-60 editions.



TITANIA — 1960, *United States Navy, Official*

3 "Libra" Class

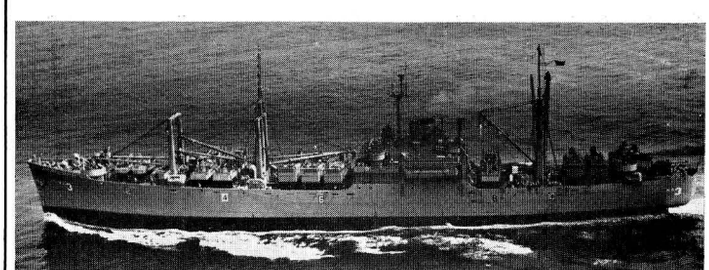
AKA
12 LIBRA (ex-*Jean Lykes*, 28 Dec. 1941)
14 OBERON (ex-*Delalba*, 18 Mar. 1942)

AKA
13 TITANIA (ex-*Harry Culbreath*, 28 Feb. 1942)

Displacement:	6,345 tons *light* (14,440 tons *full load*)
Dimensions:	435 (*w.l.*), 459½ (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	1—5 inch, 8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 6,000 = 16·5 kts.
Boilers:	2 Foster-Wheeler
Complement:	250

General Notes
C2-F Cargo (S) type. Launch dates above. Can carry 5,500 tons of cargo and 2,000 tons of war equipment. All out of commission in reserve. *Oberon*, AKA 14, and *Titania*, AKA 13, were transferred to the Maritime Administration in 1959-60.

Photograph Notes
A larger starboard broadside view of *Titania* appears in the 1956-57 to 1959-60 editions.



BELLATRIX — 1960, *United States Navy, Official*

2 "Bellatrix" Class

AKA
3 BELLATRIX (ex-*Raven*, 15 Aug. 1941)

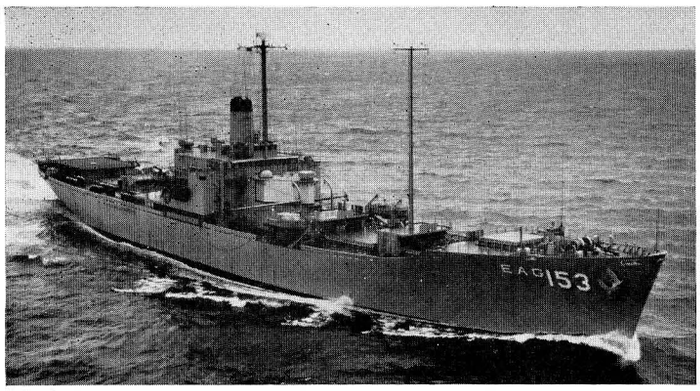
AKA
4 ELECTRA (18 Nov. 1941)

Displacement:	6,194 tons *light* (10,432 tons *full load*). Maritime Commission *deadweight*, 8,656 tons
Dimensions:	459 (*o.a.*) × 63 × 25⅝ (*max.*) feet
Machinery:	Diesel. 1 shaft. B.H.P.: 6,000 = 15·5 kts.

General Notes
C2-T type. Laid down and commissioned in Navy 1940. Reactivated for Navy 1951 from M.A. Reserve Fleet. Both out of commission in reserve. *Bellatrix*, AKA 3, was transferred to the Maritime Administration in 1960.

Photograph Notes
A larger starboard broadside view of *Bellatrix* appears in the 1953-54 to 1959-60 editions.

BALLISTIC MISSILE TEST VESSELS



COMPASS ISLAND 1960, *United States Navy, Official*

1 Experimental Navigational Ship

EAG 153 COMPASS ISLAND (ex-*YAG* 56, ex-*S.S. Garden Mariner*)

Measurement:	17,600 tons
Dimensions:	529½ × 76¼ × 29 feet
Machinery:	General Electric geared turbines. S.H.P.: 19,250=20 kts.

General Notes

Built by New York Shipbuilding Corporation, Camden, New Jersey. Converted by New York Naval Shipyard. Commissioned on 3 Dec. 1956. A major forward step in the development of one of the United States Navy's top priority projects—the Fleet Ballistic Missile—was taken on 3 Dec. 1956 when the experimental navigational ship *Compass Island* (EAG 153) was commissioned at the New York Naval Shipyard, Brooklyn.

The mission of *Compass Island* is to assist in the development and evaluation of a navigation system indepedent of shore-based aids.

The *Compass Island* was acquired by the Navy from the Maritime Administration. She has been modernized to provide excellent living spaces for her crew and also has space for a large number of scientists to work and live aboard.

Navigation Notes

The key to the ultimate, all-weather, all-latitude, day-and-night capability is the Ship Inertial Navigational System (S.I.N.S.) which is based on fundamental investigations and research performed for the Navy by the Instrumentation Laboratory, Massachusetts Institute of Technology. The S.I.N.S. determines ship position (latitude and longitude), true north, and ship speed over the ground. Refinements to the basic system and manufacture of the first production units are being accomplished by the Marine Division of the Sperry Gyroscope Company.

To check and periodically correct the S.I.N.S., the *Compass Island* will take to sea several celestial trackers or miniature observatories. The trackers, when once pointed toward heavenly bodies, will automatically track these bodies, giving continuous celestial information for determining position.

The miniature observatories are mounted on a 67-ton navigational tower located just forward of the ship's superstructure. This tower provides a rigid structure isolated from ship flexures, to give fixed reference planes from which to make celestial computations.

A complex airfoil-shaped dome has been appended to the bottom of the ship's hull to house special sonar equipment developed by the Navy's Bureau of Ships and the General Electric Corporation to measure the ship's speed. This huge dome is designed to make the reading of sonar echoes easier and more precise while the ship is steaming. Because of the Dome's projection downward from the ship's bottom, ship-workers have nicknamed the converted vessel the " ship with the droop snoot."

The perfected navigational system will not only aid missile ships, but eventually may help all types of ships from ocean going liners to the smallest motorboat. It also may bring about revolutionary changes in the field of cartography. Even after approximately 10 centuries of development, the science of navigation is still insufficiently accurate for long-range surface-to-surface missile launching and present-day maps and charts suffer from varying degrees of inaccuracy. With the perfection of new navigational techniques, these maps and charts can be made extremely accurate.

Stabilization Notes

Compass Island, formerly the fast Mariner-class cargo ship *Garden Mariner*, is one of the most comfortable riding ships in the Navy. She has the best automatic steering available, and in addition has activated fins for roll-stabilization. This syetm was developed in the U.S. by the Sperry Gyroscope Company, Division of Sperry-Rand Corporation. When her sister ships are rolling 15 degrees, *Compass Island*, in the same seaway, will roll about a degree and a half—a 90 per cent reduction in roll.

Conversion Notes

Conversion work on the *Compass Island* was very rapid. It began in early July at the New York Naval Shipyard, and she had her first sea trials on 19 Nov. 1956. Work involving new installations normally would require at least 18 months to complete.

Photograph Notes

A large starboard broadside aerial view of *Compass Island* appears in the 1958-59 and 1959-60 editions, and a large starboard quarter oblique aerial view in the 1957-58 edition.

1 Missile Instrumentation Range Ship

T-AG 160 RANGE TRACKER (ex-*S.S. Skidmore Victory*, MCV 685)

Notes

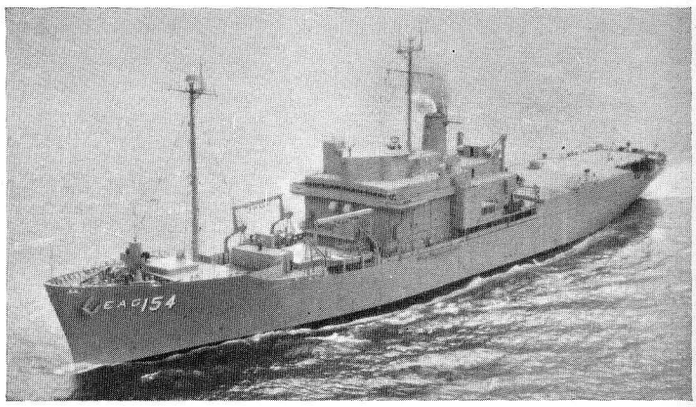
This 9,000-ton conversion to a missile range instrumentation ship, AG, was requested in the Fiscal Year 1960 Conversion Program. Being converted by Ingalls Shipbuilding Corporation, Pascagoula, Mississippi, will be assigned to Pacific Missile Range. MSTS civil service crew of 17 officers, 42 men, and 30 electronic specialists.

Fleet Ballistic Missile Ship

Cancellation Notes

The proposed conversion from a " Mariner " type cargo ship into the Fleet Ballistic Missile Ship **EAG 155**, equipped for long range operations, is no longer planned.

Ballistic Missile Test Vessels—*continued*



OBSERVATION ISLAND 1960, *United States Navy, Official*

1 Experimental Firing Ship

EAG 154 OBSERVATION ISLAND (ex-*YAG* 57, ex-*S.S. Empire State Mariner*)

Displacement:	15,000 tons
Dimensions:	529½ × 76¼ × 29 feet
Machinery:	General Electric geared turbines. S.H.P.: 19,250=20 kts.
Complement:	350

General Notes

Built by New York Shipbuilding Corporation, Camden, New Jersey. Converted by Norfolk Naval Shipyard, Portsmouth, Virginia. Commissioned on 5 Dec. 1958. Experimental vessel for the firing of " Polaris " Guided Missiles (intermediate range inter-continental ballistics missile) in the scheduled programme of test ships for inter-continental ballistic missiles classed as miscellaneous auxiliaries (experimental), EAG.

Missile Notes

The ship is fitted for complete missile testing, fuelling, servicing and firing. She is to receive intermediate range missile launching equipment to test and evaluate Polaris missiles for launching from surface ships. A new launching tube will be installed at Norfolk Naval Shipyard in 1960 to replace one of two tubes presently installed. The new tube will be at a fixed angle. A tiltable tube will remain while a vertically fixed tube will be replaced—both of these were submarine missile launching experiments.

Eight to ten different submarine designs and several surface ship designs are being developed, including battleships, for carrying the " Polaris " intermediate range ballistics missile. She carries two " Polaris " missile launchers.

She fired the first Polaris missile, ship launched, at sea on 27 Aug. 1959. The 28-foot test version of the Polaris was forced 70 feet above the deck by compressed air after which its first stage engine ignited.

The ship is installed with complex naval equipment designed to pin-pount long range surface-to-surface missile firings. She was fitted with the second " Polaris " missile launching tube in Sep. 1959 at Norfolk Naval Shipyard.

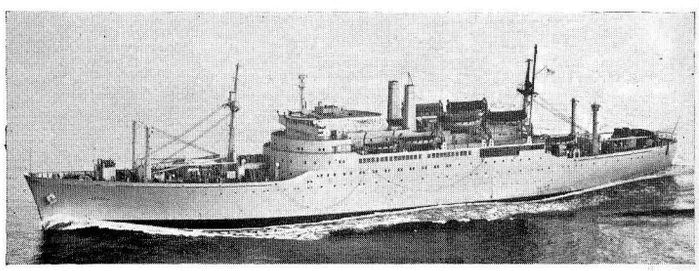
Conversion Notes

This vessel was being converted by Norfolk Naval Shipyard, Portsmouth, Virginia, but the conversion was postponed due to the change from " Jupiter " to " Polaris " guided missiles. The conversion recommenced on 15 Oct. 1957 for " Polaris " guided missiles. Conversion cost $20,000,000.

Photograph Notes

A large starboard bow surface view of *Observation Island* appears in the 1959-60 edition.

TRANSPORTS



GEIGER *Added* 1960, *Skyfotos*

3 " Barrett " Class

T-AP
196 BARRETT (ex-*President Jackson*)
197 GEIGER (ex-*President Adams*)

T-AP
198 UPSHUR (ex-*President Hayes*)

Displacement:	17,600 tons *standard* (19,600 tons *full load*)
Measurement:	12,660 tons (*gross*), 10,600 tons *deadweight*
Dimensions:	500 (*pp.*), 533 (*o.a.*) × 73 × 27 feet
Machinery:	Geared turbines. 1 shaft. S.H.P.: 13,750=19 to 20 kts. (cruising, see notes)

General Notes

Maritime Administration type P2-S1-DN1. All three built by the New York Shipbuilding Corporation, New Jersey. Originally laid down as passenger ships for the American President Lines but taken over by the Navy to be completed as troop transports, and have all been assigned to Military Sea Transportation Service as U.S. Naval Ships (non-commissioned naval vessels). Troop carrying capacity of 1,500 plus 396 cabin berths for officers and dependants. Troop lift can be increased by at least 1,000 men if necessary by converting recreation areas into berthing spaces. All spaces, compartments and holds are air-conditioned except the engine room and bridge.

Engineering Notes

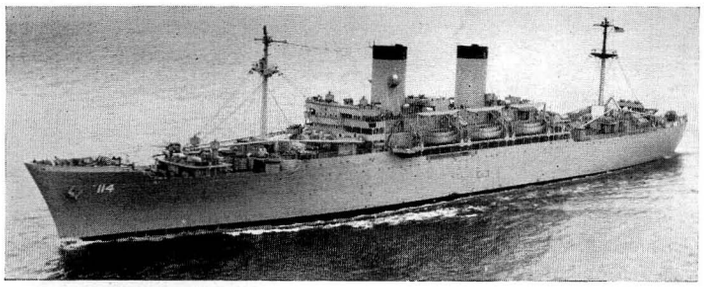
On sea trials *Barrett* attained speed 21·5 knots at full power, 1·5 knots more than expected by engineers on the basis of shaft horse power developed.

Photograph Notes

A larger starboard bow oblique aerial view of *Upshur* appears in the 1957-58 to 1959-60 editions, and a larger starboard broadside view of *Barrett* in the 1953-54 to 1956-57 editions.

Name	*Laid down*	*Launched*	*Completed*
Barrett	1 June 1949	27 June 1950	15 Dec. 1951
Geiger	1 Aug. 1949	9 Oct. 1950	13 Sep. 1952
Upshur	30 Sep. 1949	19 Jan. 1951	20 Dec. 1952

M.S.T.S. TRANSPORTS



GENERAL WILLIAM MITCHELL — *Added* 1960, *Ted Stone*

5 P-2 "General" Class

T-AP
115 GENERAL G. M. RANDALL (30 Jan. 1944)
176 GENERAL J. C. BRECKINRIDGE (18 Mar. 1944)
112 GENERAL W. A. MANN (18 July 1943)
114 GENERAL WILLIAM MITCHELL (31 Oct. 1943)

Displacement:	11,828 tons *standard* (20,175 tons *full load*)
Dimensions:	573 (*w.l.*), 622½ (*o.a.*) × 75½ × 25½ (*max.*) feet
Machinery:	De Laval geared turbines. 2 shafts S.H.P.: 17,000 = 20·6 kts.
Boilers:	4 Foster-Wheeler, 465 lb. working pressure.
Troops:	5,500

General Notes

All built by Federal S.B. & D.D. Co. at Kearny. Guns removed from commissioned ships in 1955.

Photograph Notes

A larger port bow aerial view of *General H. W. Butner* appears in the 1956-57 to 1959-60 editions, and a starboard bow surface view of *General A. E. Anderson* in the 1951-52 to 1955-56 editions.

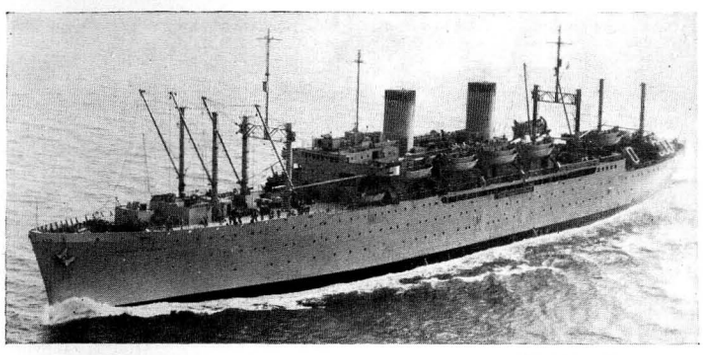
Recent Disposals

AP 111 *General A. E. Anderson*, AP 110 *General John Pope*, AP 116 *General M. C. Meigs*, AP 119 *General William Weigel* and AP 117 *General W. H. Gordon* were transferred to the Maritime Administration Reserve Fleet in 1958, being excess to MSTS needs. *General John Pope*, T-AP 110, and *General M. C. Meigs*, T-AP 116, were stricken in 1959. *General H. W. Butner*, T-AP 113, was transferred to the Maritime Administration in 1960.

The transports *Le Jeune* (former German liner *Windhuk*) built by Blohm & Voss, and *Wakefield* (ex-liner *Manhatton*) were stricken from the Navy List in 1957 and transferred to the Maritime Administration.

MSTS Notes

On 1 Oct. 1949 the U.S. Navy's Military Sea Transportation Service took over Naval and Army Transport Services. Non-commissioned ships of the Military Sea Transportation Service (U.S. Naval Ships), Transports, Cargo Ships and Tankers, are identified by a *blue and gold band* on their funnels, with names painted on each bow and stern prefixed with the letters U.S.N.S. In other respects they are painted as other U.S. Navy ships. "T" prefixed to designations indicates assignment to MSTS.



GENERAL SIMON B. BUCKNER — *Added* 1960, *Skyfotos*

7 "Admiral" Class

T-AP
120 GENERAL DANIEL I. SULTAN (ex-*Admiral W. S. Benson*)
121 GENERAL HUGH J. GAFFEY (ex-*Admiral W. L. Capps*)
122 GENERAL ALEXANDER M. PATCH (ex-*Admiral R. E. Coontz*)
123 GENERAL SIMON B. BUCKNER (ex-*Admiral E. W. Eberle*)
124 GENERAL EDWIN D. PARTICK (ex-*Admiral C. F. Hughes*)
126 GENERAL MAURICE ROSE (ex-*Admiral Hugh Rodman*)
127 GENERAL WILLIAM O. DARBY (ex-*Admiral W. S. Sims*)

Displacement:	9,676 tons *standard* (20,120 tons *full load*)
Dimensions:	609 (*o.a.*) × 75½ × 26½ (29 *max.*) feet
Machinery:	2 G.E. Turbo-electric. 2 shafts. S.H.P.: 18,000 = 19 kts.

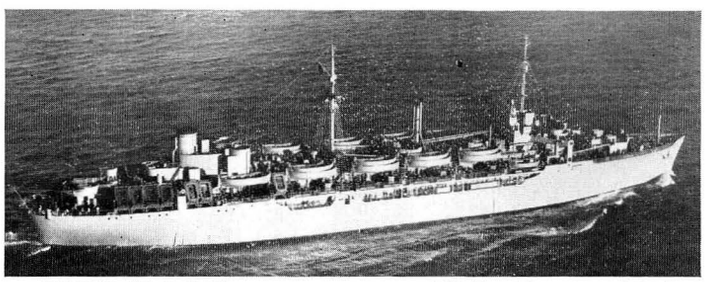
General Notes

M.C. Type P 2-SE2-R1. Ex-"Admiral" Class. All built by Bethlehem-Alameda in 1944-45. T-AP 125 *General Nelson M. Walker* (ex-*Admiral H. T. Mayo*) was transferred to the Maritime Administration in 1958, but was reacquired by the Navy as a result of the Lebanon landings in July 1958. She was stricken from the "List of Naval Vessels" on 20 Jan. 1959, and transferred to the Maritime Administration as axcess to MSTS requirements.

Photograph Notes

A larger port bow oblique aerial view of *General Maurice Rose* appears in the 1952-53 to 1959-60 editions, and a larger starboard bow surface view of *General Alexander M. Patch* in the 1950-51 and 1951-52 editions.

Transports—*continued*



GENERAL W. F. HASE — 1960, *United States Navy, Official*

10 "General" Class

T-AP
141 GENERAL A. W. GREELY
142 GENERAL C. H. MUIR
146 GENERAL W. F. HASE
147 GENERAL E. T. COLLINS
148 GENERAL M. L. HERSEY
149 GENERAL J. M. McRAE
153 GENERAL R. M. BLATCHFORD
154 GENERAL LE ROY ELTINGE
1957 GENERAL C. C. BALLOU
159 GENERAL STUART HEINTZELMAN

Displacement:	10,034 tons *standard* (17,250 tons *full load*)
Dimensions:	522$\frac{5}{16}$ (*o.a.*) × 71½ × 26½ (*max.*) feet
Machinery:	Westinghouse turbine. S.H.P.: 9,000 = 17 kts.

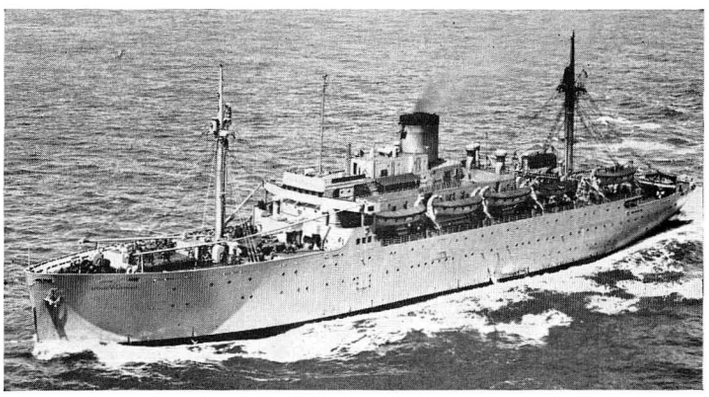
General Notes

Type C4-S-A1. "General" Class. All built by Kaiser Co. Richmond, California, in 1943-45. Carry 1,500 to 3,000 troops. T-AP 146, 148, 157, 159 laid up in Navy's Reserve Fleets 1954, 141, 142, 147, 149, in 1955. T-AP 135 and 155 stricken from Navy List and transferred to Maritime Administration, 1956.

Twelve of the "General" class transports, T-AP 134, 137, 138, 139, 140, 143, 144, 145, 150, 151, 156 and 158, were transferred to the Maritime Administration in 1958 as excess to M.S.T.S. requirements (T-AP 134, 137, 143 and 145 were stricken in 1959). Of the remaining ten, eight are in the Navy's Reserve Fleet, and T-AP 153 and 154 are in the M.S.T.S. *General C. H. Muir*, 142, *General E. T. Collins*, 147, and *General J. M. McRae*, 149, were transferred to the Maritime Administration in 1960.

Photograph Notes

A larger starboard bow oblique aerial view of *General M. L. Hersey* appears in the 1958-59 and 1959-60 editions, and a larger port bow aerial view of *General M. B. Stewart* appears in the 1952-53 to 1957-58 editions.



GEORGE W. GOETHALS — *Skyfotos*

T-AP
180 DAVID C. SHANKS (ex-*Gulfport*)
181 FRED C. AINSWORTH (ex-*Pass Christian*)
182 GEORGE W. GOETHALS (ex-*Pascagoula*)
183 HENRY GIBBINS (ex-*Biloxi*)

Displacement:	9,000 tons *standard* (12,900 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 26¾ (*max.*) feet
Machinery:	Turbine. S.H.P.: 8,500 = 16·5 kts.

General Notes

Type C3-IN-P & C. All built by Ingalls Shipbuilding Corporation, Pascagoula.

Photograph Notes

A larger photograph of *George W. Goethals* appears in the 1952-53 to 1959-60 editions.

T-AP
178 FREDERICK FUNSTON
T-AP
179 JAMES O HARA

Displacement:	10,967 tons *standard* (16,150 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 26½ (*max.*) feet
Machinery:	Turbine. S.H.P.: 8,500 = 18·6 kts.

General Notes

Type C3-SI-A3 Both built by Ingalls Shipbuilding Corporation, Pascagoula.

Transfer Notes

Frederick Funston, T-AP 178, *James O'Hara*, T-AP 179, *David C. Shanks*, T-AP 180, *Fred C. Ainsworth*, T-AP 181, *George W. Goethals* (photograph in the 1952-53 to 1959-60 editions), T-AP 182, and *Henry Gibbins*, T-AP 183, were transferred to the Maritime Administration in 1960. (*Henry Gibbins* has been turned over to the New York Maritime College at Fort Schuyler as a training vessel on a loan basis.)

T-AP
186 SERGEANT CHARLES E. MOWER (ex-*Rryon*)

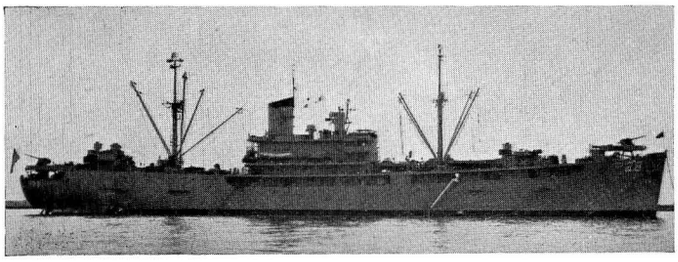
Displacement:	7,791 tons *standard* (10,885 tons *full load*)
Dimensions:	450 (*o.a.*) × 62 × 23½ (*max.*) feet
Machinery:	Turbine. S.H.P.: 8,500 = 18·2 kts.

Notes

Carries 700 troops. Laid up in Navy Reserve Fleet, 1954-55. Sister ships T-AP 185 *Private William H. Thomas* (ex-*Rixey*) and T-AP 184 *Private Elden H. Johnson* (ex-*Pinkney*) were transferred to the Maritime Administration late in 1957.

T-AP 202, *Marine Serpent*, was returned to Maritime Administration in 1955. All four transports of the C4-S-A3 type, T-AP 193 *Marine Adder*, T-AP *Marine Lynx*, T-AP 195 *Marine Phoenix* and T-AP 199 *Marine Carp*, were transferred to the Maritime Administration in 1958 as excess to MSTS needs. T-AP 184, 185, and 199 were stricken in 1959.

DESTROYER TENDERS (AD)



GRAND CANYON — 1958, *courtesy Godfrey H. Walker, Esq.*

10 "Arcadia" Class

ARCADIA (19 Nov. 1944)
BRYCE CANYON (7 Mar. 1946)
EVERGLADES (28 Jan. 1945)
FRONTIER (25 Mar. 1945)
GRAND CANYON (27 Apr. 1945)
ISLE ROYAL (19 Sep. 1945)
KLONDIKE (12 Aug. 1944)
SHENANDOAH (29 Mar. 1945)
TIDEWATER (30 June 1945)
YELLOWSTONE (12 Apr. 1945

Displacement:	8,165 tons *standard* (16,635 tons *full load*)
Dimensions:	465 (*w.l.*), 492 (*o.a.*) × 69½ × 27¼ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Foster-Wheeler or Babcock & Wilcox
Complement:	826

General Notes
Constructed by Todd Shipyards, and other builders. Nos. AD 23, 36, 24, 25, 28, 29, AR 22, AD 26, 31, 27, respectively. Three other ships (*Arrowhead, Canopus, New England*) were cancelled in 1945, and a fourth (*Great Lakes*) sold. *Frontier* was commissioned on 2 Mar. 1946. *Bryce Canyon* was completed on 20 Dec. 1949. C 3 type. Ships vary in appearance. *Klondike* recommissioned in 1959, replacing *Hooper Island*, and was reclassified as AR 22 on 20 Feb. 1960.

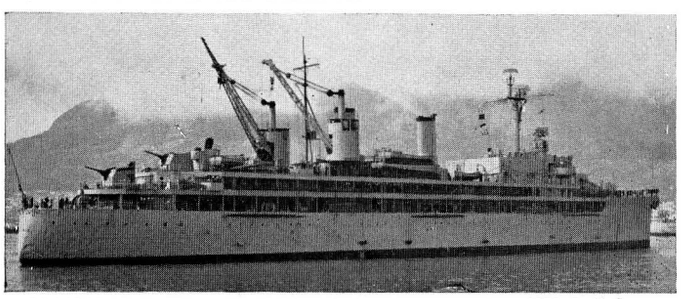
Photograph Notes
Photograph of *Frontier* (funnel in middle of superstructure) in the 1955-56 to 1957-58 editions.

1 "Cascade" Type

CASCADE

Displacement:	9,800 tons *standard* (16,600 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 27¼ (*max.*) feet
Guns:	2—5 inch, 38 cal., 6—40 mm. AA.
Machinery:	Turbines. S.H.P.: 8,500 = 18·4 kts.
Complement:	860

Notes
No. AD 16. Built by Western Pipe & Steel Co., San Francisco. C3-S1-N2 type. Launched on 7 June 1942 and commissioned on 12 Mar. 1943.



PRAIRIE — 1958, *R. M. Scott*

5 "Dixie" Class

2 *New York S.B. Corpn.*
DIXIE (27 May 1939)
PRAIRIE (9 Dec. 1939)

3 *Tampa S.B. Co.*
PIEDMONT (7 Dec. 1942)
SIERRA (23 Feb. 1943)
YOSEMITE (16 May 1943

Displacement:	9,450 tons *standard* (17,176 tons *full load*)
Dimensions:	520 (*w.l.*), 530½ (*o.a.*) × 73½ × 25½ feet
Guns:	4—5 inch, 38 cal., 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000 = 19·6 kts.
Complement:	1,262 (war)

General Notes
Nos. AD 14, 15, 17, 18, 19, respectively. Launch dates above. First two commissioned in 1940, the others in 1944.

Photograph Notes
Photograph of *Dixie* in the 1954-55 to 1957-58 editions.

Conversion Notes
Yosemite has undergone FRAM conversion with helicopter platform and hangar, being fitted with heliport and repair facilities to service DASH drones and store homing torpedoes, and bays for guided missile servicing. *Dixie* is also undergoing FRAM conversion.



MARKAB — 1956, *U.S. Navy, Official*

2 "Hamul" Class

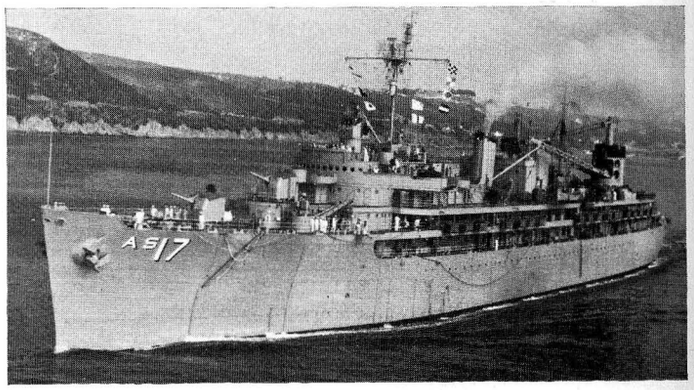
HAMUL (ex-*Dr. Lykes*, 6 Apr. 1940)
MARKAB (ex-*Mormacpenn*, 21 Dec. 1940)

Displacement:	8,560 tons *standard* (14,800 tons *full load*)
Dimensions:	465 (*pp.*), 492 (*o.a.*) × 69¾ × 24¾ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 18·4 kts.
Boilers:	2 Foster-Wheeler
Complement:	857

General Notes
Nos. AD 20 and AR 23 (ex-AD 21), respectively. C3 type. Launch dates above. Both first commissioned on 5 June 1941.

Reclassification Notes
Markab was reclassfied as AR 23 on 15 Apr. 1960 and recommissioned in 1960 to replace *Luzon*.

SUBMARINE TENDERS (AS)



NEREUS — 1960, *United States Navy, Official*

1 New Construction

AS 31

Displacement:	10,500 tons *standard* (18,300 tons *full load*)
Dimensions:	599 × 83 feet
Guns:	4—3 inch, 50 cal., in twin mounts
Machinery:	Diesel electric (see *Notes*)

Notes
Tender for servicing "Polaris" submarines authorised in the Fiscal Yaer 1960 new construction program. Newport News Shipbuilding & Drydock Co., Newport, Virginia, received a fixed price contract totalling $28,680,000 for the construction of this vessel. She will provide guided weapon and nuclear reactor logistic support to the Navy's fleet ballistic missile submarines. For propulsion she will have 10 Fairbanks-Morse diesels generating 12,000 Kw., A.C. To be completed in 1962.

7 "Fulton" Class

4 *Mare Island Navy Yard*
BUSHNELL (14 Sep. 1942)
FULTON (27 Dec. 1940)
HOWARD W. GILMORE (ex-*Neptune*, 16 Sep. 1943)
SPERRY (17 Dec. 1941)

2 *Moore Dry Dock Co., Oakland, Calif.*
ORION (14 Oct. 1942)
PROTEUS (12 Nov. 1942)

1 *Puget Sound Navy Yard*
NEREUS (12 Feb. 1945)

Displacement:	9,734 tons *standard* (18,000 tons *full load*) (*Proteus* 10,234 tons *standard*, 19,000 tons *full load*)
Dimensions:	530½, *Proteus* 574½ (*o.a.*) × 73½ × 25½ (*max.*) feet
Guns:	4—5 inch, 10—40 mm. AA. (*Nereus*, 2—5 inch, 38 cal.) After 2—5 inch in *Sperry* removed in Sep. 1960.
Machinery:	G.M. diesels with electric drive. B.H.P.: 11,200 = 15·4 kts.
Complement:	1,300

General Notes
Fulton authorised under 1938 Program, others under 1940. Nos. AS 15, 11, 16, 12, 18 19, 17 respectively. Launch dates above. Ships vary in detail.

Photograph Notes
Photographs of *Fulton* in the 1958-59 and 1959-60 editions and *Orion* in the 1950-51 to 1957-58 editions.

Conversion Notes
Proteus, AS 19, was converted at the Charleston Naval Shipyard, under the Fiscal Year 1959 conversion program, at a cost of $23,000,000, to serve the Nuclear Powered Fleet Ballistic Missile Submarine, SSBN, Squadron. Conversion work started on 19 Jan. 1959 and she was recommissioned on 8 July 1960. She has been lengthened by adding a section amidships 44 feet in length, and the bare hull weight of this 6-deck high insertion is approximately 500 tons.
Nereus, AS 17, underwent a 4-month conversion in Nov. 1959 to Feb. 1960, for facilities to service nuclear powered submarines. Her after guns were removed and her upper decks extended aft to provide additional workshops.

4 "Aegir" Class

AEGIR **ANTHEDON** **APOLLO** **CLYTIE**

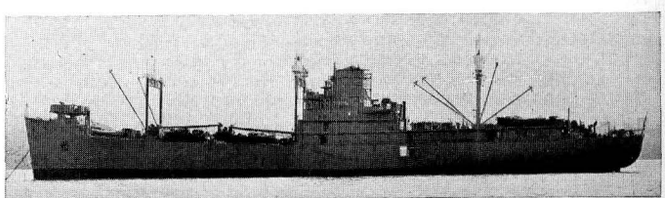
Displacement:	8,100 tons *standard* (16,100 tons *full load*)
Dimensions:	492 (*o.a.*) × 69½ × 26½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal.
Machinery:	Westinghouse geared turbines. S.H.P.: 8,500 = 18·4 kts.

Notes
Nos. AS 23, 24, 25, 26, respectively. All launched in 1943 and completed in 1944. Built by Ingalls Shipbuilding Corp. C3-S-A2 type. Out of commisison, in reserve.

EURYALE

Displacement:	8,282 tons *standard* (15,400 tons *full load*)
Dimensions:	492½ (*o.a.*) × 69½ × 25 feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal.
Machinery:	De Laval geared turbine. S.H.P.: 8,500 = 16·5 kts

Notes
No. AS 22. Launched in 1941. Acquired and commissioned in 1943. Modified C3 type. Out of commission, in reserve.



PELIAS — 1952, *U.S Navy, Official*

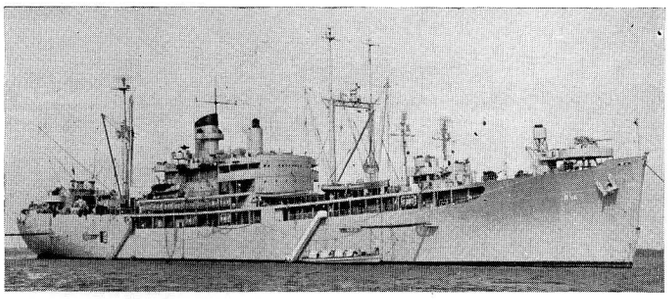
2 "Griffin" Class

GRIFFIN (ex-*Mormacpenn*, 10 Nov. 1939)
PELIAS (ex-*Mormacyork*, 14 Nov. 1939)

Displacement:	8,600 tons *standard* (14,500 tons *full load*)
Dimensions:	492 × 69½ × 24¼ (*max.*) feet
Guns:	4—3 inch, 50 cal.
Machinery:	4 sets Busch-Sulzer diesels. B.H.P.: 8,500 = 16·5 kts.
Complement:	1,513

Notes
C3 Cargo type. Nos. AS 13, 14. Launch dates above. Completed on 31 July 1941 and 5 Sep. 1941, respectively. Out of commission, in reserve.

REPAIR SHIPS (AR)



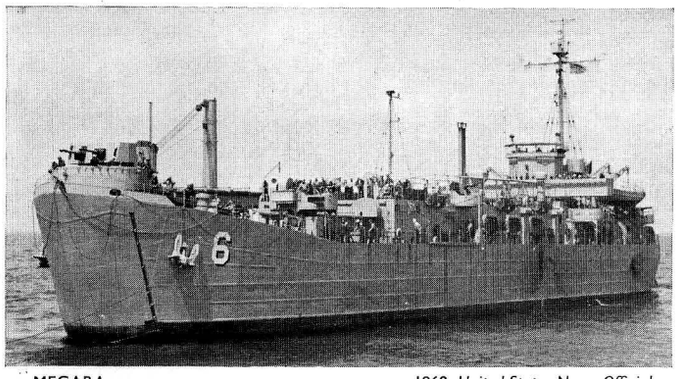
CADMUS — 1956, *U.S. Navy Official*

2 "Amphion" Class

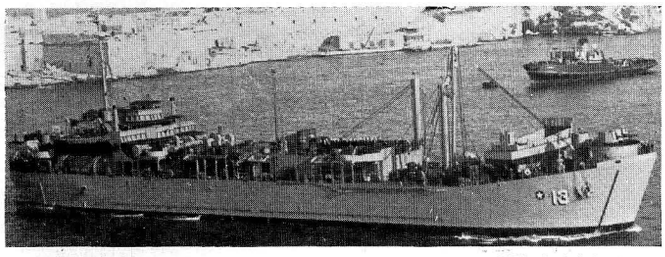
AMPHION (15 May 1945) **CADMUS** (5 Aug. 1945)

Displacement:	7,826 tons *standard* (16,900 tons *full load*)
Dimensions:	456 (*w.l.*), 492 (*o.a.*) × 70 × 27½ feet
Guns:	2—5 inch, 8—40 mm. AA.
Machinery:	Westinghouse turbines. S.H.P.: 8,500 = 17 kts.
Boilers:	2 Foster-Wheeler
Complement:	921

Notes
Nos. AR 13, 14. Built by Tampa Shipbuilding Co. Launch dates above. C 3 cargo type. *Deucalion* and *Mars*, of this type, cancelled.



MEGARA — 1960, *United States Navy, Official*



MENELAUS — 1953, *A. & J. Pavia*

35 Ex-LST Type

ACHELOUS (ex-*LST* 10)	ARL 1	**KRISHNA** (ex-*LST* 1149)	ARL 38
AMPHITRITE (ex-*LST* 1124)	ARL 29	**MEGARA** (ex-*LST* 1095)	ARVA 6
AMYCUS (ex-*LST* 489)	ARL 2	**MIDAS** (ex-*LST* 524)	ARB 5
ARISTAEUS (ex-*LST* 329)	ARB 1	**OCEANUS** (ex-*LST* 328)	ARB 2
ASKARI (ex-*LST* 1131)	ARL 30	**PANDEMUS** (ex-*LST* 650)	ARL 18
ATLAS (ex-*LST* 231)	ARL 7	**PHAON** (ex-*LST* 15)	ARB 3
AVENTINUS (ex-*LST* 1092)	ARVE 3	**POSEIDON** (ex-*LST* 1037)	ARL 12
BELLEROPHON (ex-*LST* 1132)	ARL 31	**QUIRINUS** (ex-*LST* 1151)	ARL 39
CHIMAERA (ex-*LST* 1137)	ARL 33	**ROMULUS** (ex-*LST* 926)	ARL 22
CHLORIS (ex-*LST* 1094)	ARVE 4	**SARPEDON** (ex-*LST* 956)	ARB 72
CORONIS (ex-*LST* 1003)	ARL 10	**SATYR** (ex-*LST* 852)	ARL 23
DIOMEDES (ex-*LST* 1119)	ARB 11	**SPHINX** (ex-*LST* 963)	ARL 24
EGERIA (ex-*LST* 136)	ARL 8	**STENTOR** (ex-*LST* 858)	ARL 26
ENDYMION (ex-*LST* 513)	ARL 9	**TELEMON** (ex-*LST* 957)	ARB 8
FABIUS (ex-*LST* 1093)	ARVA 5	**TYPHON** (ex-*LST* 1118)	ARL 28
GORDIUS (ex-*LST* 1145)	ARL 36	**ULYSSES** (ex-*LST* 967)	ARB 9
HELIOS (ex-*LST* 1127)	ARB 12	**ZEUS** (ex-*LST* 132)	ARB 4
INDRA (ex-*LST* 1147)	ARL 37		

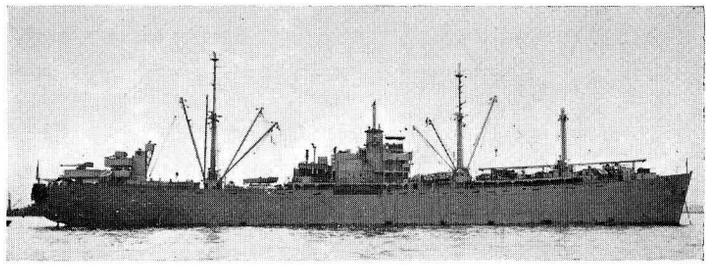
Displacement:	1,625 tons *light*, 3,960 tons *trials* (4,100 tons *full load*)
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 × 11 feet
Guns:	8—40 mm. AA.
Machinery:	General Motors diesels. 2 shafts. B.H.P.: 1,800 = 11·6 kts.
Complement:	251 to 286

General Notes
Four types: 10 ARB, 21 ARL, 2 ARVA and 2 ARVE. All launched in 1942-45. Rated as Repair Ships for Battle Damage (ARB 1-5, 7, 8, 9, 11, 12) for Landing Craft (ARL 1, 2, 7-10, 12, 18, 22-24, 26, 28-31, 33, 36-39), and Aircraft Repair Ships for Aircraft Engines (ARVE 3-4), Airframes (ARVA 5, 6).

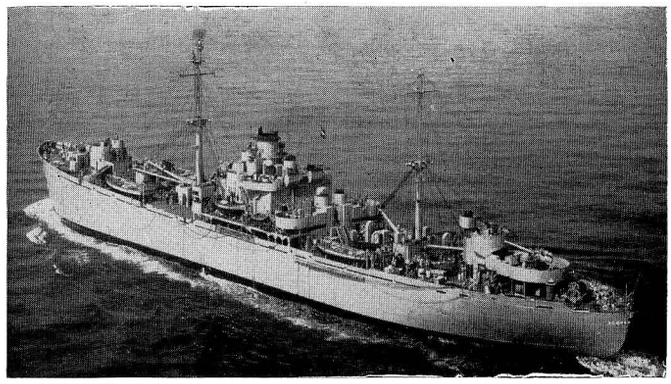
Transfer Notes
Agenor (ex-LST 490) ARL 3, was ceded to France 2 Mar. 1951. *Patrolcus* (ARL 19, ex-LST 955), was transferred to Turkey in 1952. *Minotaur*, ARL 15 (ex-LST 645), was loaned to Korea on 3 Oct. 1955.

Recent Disposals
Demeter, ARB 10 (ex-LST 1121), was stricken from the "List of Naval Vessels" on 1 Mar. 1959. *Adonis*, ARL 4, *Daedalus*, ARL 35, *Minos*, ARL 14, *Pentheus*, ARL 20, and *Proserpine*, ARL 21, were stricken on 1 Jan. 1960, and *Creon*, ARL 11, *Menelaus*, ARL 13, *Myrmidon*, ARL 16, and *Numitor*, ARL 17, at the end of 1960.

Repair Ships—*continued*



CHOURRE — *United States Navy, Official*



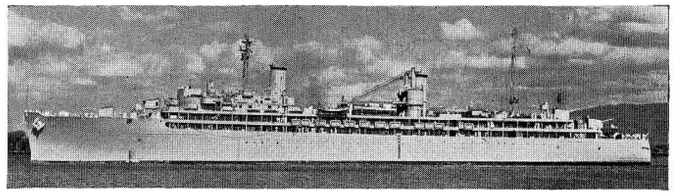
HOOPER ISLAND — *Added 1957, Ted Stone*

14 "EC 2" Type

CEBU (ex-*Francis P. Duffy*, 18 Oct. 1943)
CHOURRE (ex-*Dumaran*, 22 May 1944)
CULEBRA ISLAND (ex-*John E. Goucher*, 23 Nov. 1944)
DIONYSUS (ex-*Faithful*)
LAERTES (ex-*Dutiful*)
MAUI (ex-*Leyte*, 18 Feb. 1944)
MINDANAO (rx-*Elbert Hubbard*)
MONA ISLAND (13 May 1943)
OAHU (ex-*Caleb C. Wheeler*, 9 Sep. 1944)
PALAWAN (12 Aug. 1944)
SAMAR (19 Oct. 1944)
TUTUILA (ex-*Arthur P. Gorman*, 12 Sep 1943)
WEBSTER (ex-*Masbate*, 5 Aug. 1944)
XANTHUS

Displacement:	5,766 tons *standard* (14,350 tons *full load*)
Dimensions:	416 (*w.l.*), 441½ (*o.a.*) × 57 × 23 (*mean*) feet
Machinery:	Triple expansion. I.H.P.: 2,500 = 12·5 kts.
Boilers:	2 Babcock & Wilcox

Notes
Liberty ships. Built by Bethlehem Steel Co., Fairfield Yard, Baltimore, Md. *Dionysus Laertes*, *Xanthus*, numbered AR 21, 20 19; *Chourre*, *Webster* (Aircraft Repair Ships), ARV 1, 2; others are Internal Combustion Engine Repair Ships, ARG 6, 7, 16, 2, 8, 3, 9, 5, 10, 11, 4, respectively. *Chourre* is now decommissioned. *Hooper Island*, ARG 17, was decommissioned in July 1959 and disposed of. *Kermit Roosevelt* was stricken on 1 Jan. 1960, and *Luzon* is to be disposed of in 1960.



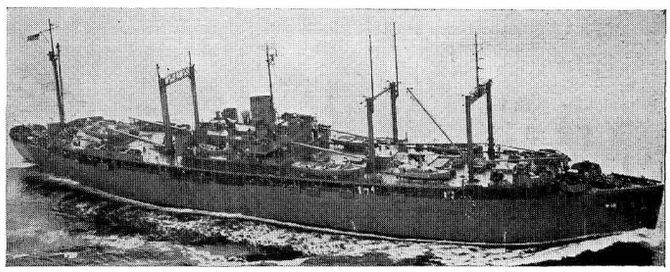
AJAX — 1955, *U.S. Navy, Official*

4 "Vulcan" Class

AJAX (22 Aug. 1942) **JASON** (3 Apr. 1943)
HECTOR (11 Nov. 1942) **VULCAN** (14 Dec. 1940

Displacement:	9,140 tons *standard* (16,200 tons *full load*)
Dimensions:	520 (*w.l.*), 529½ (*o.a.*) × 73½ × 23½ feet
Guns:	4—5 inch, 8—40 mm. AA.
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,000 = 19·2 kts.
Boilers:	4 Babcock & Wilcox 3-drum
Complement:	1,297 (war)

Notes
Vulcan built by New York S.B. Corpn. under 1939 Program. Others by Los Angeles S.B. & D.D. Corpn., under 1940 Program. All carry a most elaborate equipment of machine tools to undertake repairs of every description. *Jason*, formerly ARH 1, rated as heavy hull repair ship, was reclassified AR 8 on 9 Sep. 1957. Numbered AR 5-8.



BRIAREUS — *Added 1954, U.S. Navy, Official*

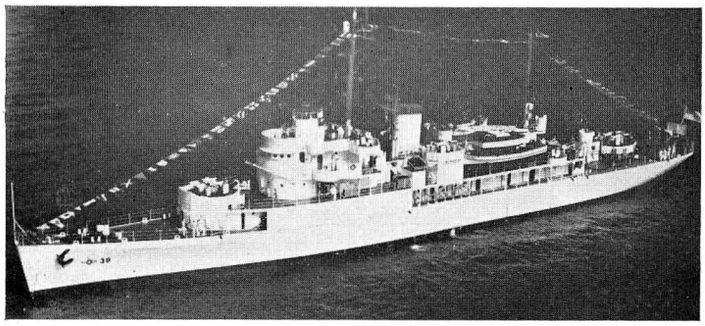
2 "Delta" Class

BRIAREUS (ex-*Hawaiian Planter*) **DELTA** (ex-*Hawaiian Packer*

Displacement:	8,975 tons *standard* (14,500 tons *full load*)
Dimensions:	645½ (*pp.*), 490½ (*o.a.*) × 69½ × 24½ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 17 kts.
Boilers:	2 Foster-Wheeler and 2 Babcock & Wilcox, respectively

Notes
Both launched in 1941. Nos. AR 12 and AR 9. C-3 type. *Braireus* is out of commission, in reserve. *Delta* was recommissioned on 31 Oct. 1959, replacing *Kermit Roosevelt*.

SEAPLANE TENDERS (AVP)



DUXBURY BAY — *Added 1960, courtesy " Our Navy "*

5 " Barnegat " Class

CORSON **GREENWICH BAY** **SUISON**
DUXBURY BAY **VALCOUR**

Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41½ × 13½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 5—40 mm. AA. (but guns vary
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 6,080 = 18·2 kts.
Complement:	215

General Notes
Officially rated as Seaplane Tenders, Small. *Greenwich Bay*, *Duxbury Bay* and *Valcour* rotate as COMID EAST Force Flagships. *Rehoboth* and *San Pablo* were fitted for oceanographical surveying. Other ships of this class have been adapted for various duties.

Gunnery Notes
Original main armament of 4—5 inch was severely reduced to save top weight. Stern armament varies: *Suison* none on stern, *Onslow* 1—5 inch, 38 cal., open mount, *Floyds Bay* quadruple 40 mm. AA.

Transfer Notes
Oyster Bay, former Motor Torpedo Boat Tender (AVP 28, ex-AGP6); recommissioned at San Francisco in 1957 and was transferred to Italy under MDAP on 23 Oct. 1957, being renamed *Pietro Cavezzale*.
Gardiners Bay, AVP 39, was transferred to the Norwegian Navy on 17 May 1958 and renamed *Haakon VII*.

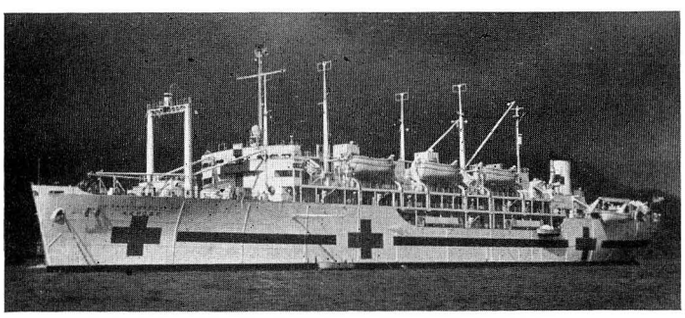
Weather Ship Notes
Abescon, *Barataria*, *Bering Strait*, *Casco*, *Castle Rock*, *Chincoteague*, *Cook Inlet*, *Coos Bay*, *Half Moon*, *Humboldt*, *Mackinac*, *Maragorda*, *Rockaway*, *Unimak*, *Yakutat*, were lent to the U.S. Coast Guard for duty as Weather Ships.

Reclassification Notes
San Carlos, AVP 51, was reclassified as an Oceanographical Research Vessel and renamed *Josiah Willard Gibbs*, AGOR 1, on 15 Dec. 1958 (see under Surveying Ships).

Recent Disposals
Barnegat, AVP 10, was stricken from the Navy List on 23 May 1958. *Floyds Bay*, AVP 40, was stricken on 1 Mar. 1960. *Onslow*, AVP 48, *Orca*, AVP 49, *Shelikof*, AVP 52, and *Timbalier*, AVP 54, are to be disposed of in 1960.

No.	*Name*	*Builders*	*Launched*
AVP 37	*Corson*	Lake Washington Shipyard, Houghton, Wash.	15 July 1944
AVP 38	*Duxbury Bay*		2 Oct. 1944
AVP 41	*Greenwich Bay*		18 Mar. 1945
AVP 53	*Suisun*		14 Mar. 1943
AVP 55	*Valcour*		5 June 1943

HOSPITAL SHIPS (AH)



REPOSE — *Lieut. A. Sugden, R.N.*

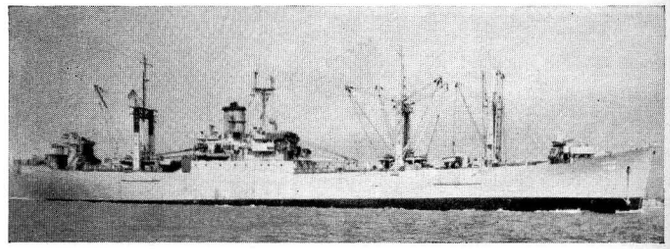
4 " Haven " Type

HAVEN (ex-*Marine Hawk*, 24 June 1944)
REPOSE (ex-*Marine Beaver*, 8 Aug. 1944)
SANCTUARY (ex-*Marine Owl*, 15 Aug. 1944)
TRANQUILITY (ex-*Marine Dolphin*, 25 July 1944)

Displacement:	11,141 tons *standard* (15,400 tons *full load*)
Dimensions:	496 (*w.l.*), 520 (*o.a.*) × 71½ × 24 (*max.*) feet
Machinery:	General Electric geared turbines. S.H.P.: 9,000 = 18·3 kts.
Boilers:	2 Babcock & Wilcox
Complement:	568-574

Notes
All built by the Sun S.B. & D.D. Co. Maritime Commission. C 4-S-B2 Type. Beds for 802 patients. Air conditioned throughout. *Sanctuary* commissioned 20 June 1945. Nos. AH 12, 16, 17, 14, respectively. *Benevolence* sank after collision with freighter off San Francisco in Aug. 1950. *Consolidation*, *Haven* and *Repose* have a flight deck aft (square red cross landing platform) for the reception and air evacuation of wounded by helicopter. Green stripe removed from all hospital ships in 1953. *Haven* was placed in service in reserve in July 1957 at Long Beach Naval Shipyard. Others out of commission in reserve. *Consolation* is undergoing modernisation and has been chartered to a private group, operated by American President Lines, as a floating laboratory and medical school in South-East Asia in 1961. She will be renamed *Hope* by the People to People Health Foundation Inc. The U.S. Navy signed the charter on 16 Mar. 1960. The $2,000,000 overhaul is being undertaken by The Puget Sound Bridge and Drydock Company in 1960.

AVIATION SUPPLY SHIP (AVS)



JUPITER — *1957, U.S. Navy, Official*

1 Ex-AK Type

JUPITER (ex-*Santa Catalina*, ex-*Flying Cloud*)

Displacement:	6,050 tons *light* (13,860 tons *full load*)
Dimensions:	459 (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Turbine. S.H.P.: 6,000 = 16·5 kts.

General Notes
Built by Federal Shipbuilding & Dry Dock, Kearny, N.J. Launched on 30 Sep. 1939. No. AVS 8 (ex-AK 43). (C2-Cargo) type.

Helicopter Notes
Fitted with a helicopter platform in 1958.

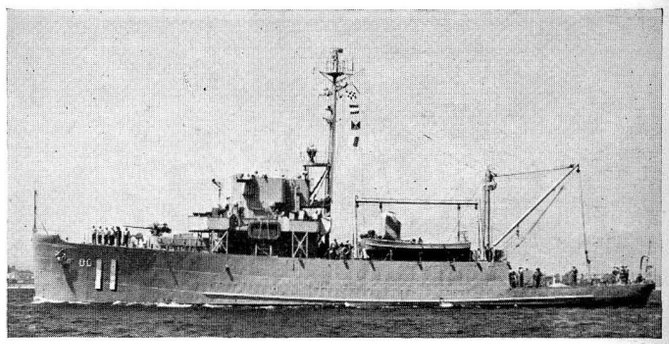
DEGAUSSING VESSELS (ADG)

1 Ex-Fleet Minesweeper Type

ADG 383 SURFBIRD (ex-*MSF* 383)

Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	215 (*w.l.*), 221¼ (*o.a.*) × 32¼ × 10¾ (*max.*) feet
Machinery:	Diesel, with electric drive. 2 shafts. B.H.P.: 2,976 = 18 kts.
Complement:	105

Notes
Built by American Shipbuilding Co., Lorain, Ohio. Laid down on 15 Feb. 1944. Launched on 31 Aug. 1944. Completed (first commissioned) on 25 Nov. 1944. Former fleet minesweeper of the steel-hulled type, MSF (ex-AM), reclassified as ADG on 18 May 1957.



AMPERE — *Added 1957, Ted Stone*

4 Ex-Escort PCE Type

ADG
8 LODESTONE (ex-*PCE* 876, 30 Sep. 1943)
9 MAGNET (ex-*PCE* 879, 1 Sep. 1943)

ADG
10 DEPERM (ex-*PCE* 883, 14 Jan. 1944)
11 AMPERE (ex-*Drake*, *AM* 359, 12 Aug. 1944)

Displacement:	640 tons *standard* (900 tons *full load*)
Dimensions:	184½ (*o.a.*) × 33 × 9½ feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,400 = 16 kts. (*Ampere*, 1,710 H.P. = 15 kts.

Notes
Launch dates above. Named on 1 Feb. 1955. All out of commission, in reserve.

PATROL VESSELS (YP)

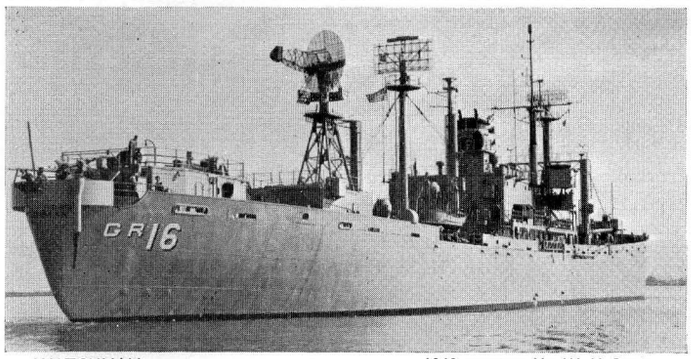
12 Navigation Training Type

YP 654 **YP 656** **YP 658** **YP 660** **YP 662** **YP 664**
YP 655 **YP 657** **YP 659** **YP 661** **YP 663** **YP 665**

Displacement:	56 tons *standard* (60 tons *full load*)
Dimensions:	80 (*o.a.*) × 17¾ × 5 (*max.*) feet
Machinery:	Diesel. 2 shafts. B.H.P.: 320

General Notes
YP 654-663 were built by Stephen Bros., Inc., Stockton, Calif., YP 654-658 under the 1956 Fiscal Year program and YP 659-663 under the 1957 Fiscal Year program. All laid down Jan.—Nov. 1957, launched July 1957-Mar. 1958, and completed Mar. 1958-Nov. 1958. YP 664 and 665 are being constructed by Elizabeth City Shipbuilders, Inc., Elizabeth City, North Carolina, under the 1959 Fiscal Year program. Floating classrooms for training midshipmen in seamanship and navigation at the United States Naval Academy. Wooden hull construction with aluminium deck houses. Surface search radar, gyro and magnetic compass, navigational plotting equipment. Potential patrol craft for national emergency. 20 other YP are on Navy Lists (YP 78-646). YP 647, 648, 649, 650 and 651 were stricken on 1 Mar. 1960.

RADAR PICKET SHIPS (AGR)



WATCHMAN — 1960, *courtesy Mr. W. H. Davis*

16 "Liberty" Type

AGR		AGR	
1	**GUARDIAN** (ex-*YAG* 41)	9	**INVESTIGATOR** (ex-*Francis J. O'Gara*)
2	**LOOKOUT** (ex-*YAG* 42)	10	**OUTPOST** (ex-*Charles A. Draper*)
3	**SKYWATCHER** (ex-*YAG* 43)	11	**PROTECTOR** (ex-*Raymond Van Brogran*)
4	**SEARCHER** (ex-*YAG* 44)	12	**VIGIL** (ex-*Warren P. Marks*)
5	**SCANNER**	13	**INTERDICTOR** (ex-*Edwin H. Duff*)
6	**LOCATOR**	14	**INTERPRETER** (ex-*Dudley H. Thomas*)
7	**PICKET**	15	**TRACER** (ex-*Interrupter*, ex-*William J. Riddle*)
8	**INTERCEPTOR**	16	**WATCHMAN** (ex-*Vernon J. Wood*)

Displacement: 3,600 tons
Dimensions: 441 (*o.a.*) × 57 × 27 feet
Guns: 2—3 inch, 50 cal. AA.
Machinery: Triple expansion. I.H.P.: 1,500
Complement: 151 (13 officers and 138 ratings)

General Notes

Sixteen Liberty hull (EC2-S-C1) cargo vessels were converted into Ocean Radar Station Ships (YAGR). These radar picket vessels are a new conception in Navy shipbuilding plans. They will be employed primarily to provide radar coverage of U.S. seaward approaches as part of the continental air defense system and are the first ships to be specifically designed for this purpose. Elements of conversion include the installation of additional communications equipment, air and surface search radar, a combat information centre, improved berthing areas and additional recreation spaces. Four were ocean radar ships. YAGR 9-12, converted under the 1957 Naval Appropriations, Four were YAGR 13-16, converted from MCE-3142, MCE-2341, MCE-2340 and MCE-2443, respectively, under the Fiscal Year 1958 conversion program. *Interpreter* was converted at Philadelphia Naval Shipyard (started 26 Aug. 1957, commissioned 29 Sep., 1958, completed 16 Apr. 1958), *Interpreter* and *Interrupter* (both started 16 Sep. 1957, commissioned 1 Aug. and 16 Oct. 1958, completed 26 Sep. and 31 Oct. 1958) at Charleston Naval Shipyard, South Carolina, and YAGR 16 at Norfolk Naval Shipyard. *Interdictor* was commissioned on 7 Apr. 1958. *Watchman* was commissioned on 5 Jan. 1959. *Interrupter*, ARG 15, was renamed *Tracer* on 4 Sep. 1959.

Reclassification Notes

On 28 Sep. 1958 all Ocean Radar Station Ships, YAGR, were reclassified Radar Picket Ships, AGR, with the same names and numbers.

Photograph Notes

Broadside view of *Guardian* in the 1957-58 to 1959-60 editions, and starboard bow oblique aerial view of *Lookout* in the 1957-58 edition.

MINESWEEPING BOATS (MSB)



MSB 8 — 1957, *courtesy "Our Navy"*

51 Shallow Draught Type

MSB	**MSB**	**MSB**	**MSB**	**MSB**	**MSB**	**MSB**	**MSB**
2	9	15	22	29	36	43	49
4	10	16	23	30	37	44	50
5	11	17	25	31	38	45	51
6	12	18	26	32	39	46	52
7	13	19	27	33	40	47	53
8	14	20	28	34	41	48	54
		21		35	42		

Displacement: 30 tons *light* (42 tons *full load*)
Dimensions: 57¼ × 15⅓ × 4 feet (MSB 29, 80 (*o.a.*) feet)
Machinery: Diesel engines. 2 shafts. B.H.P.: 600=10 kts.
Complement: 6 to 8

General Notes

MSB 5-54 have wooden hulls. Will be carried in parent ships to theatre of operations. MSB 2, 4 (ex-Army MLMs) were built in 1946, and the others in 1951 and 1952.

Engineering Notes

MSB 5 was the first vessel built for the U.S. Navy with gas turbine engines (used to provide the power for the boat's generators). 48 MSBs are fitted with gas turbine generators. MSB 23, destroyed by fire while under construction 2 Feb. 1955, was rebuilt as a plastic hulled vessel and delivered in Aug. 1956. MSB 24 was never built.

Class Notes

Class A: MSB 2, 4; Class B: MSB 5-22, 25-28, 30-54; Class C: MSB 29 (launched 5 Oct. 1956).

Recent Disposals

MSB 1 and MSB 2 were stricken on 1 Nov. 1958. An MSB sank at Charleston, S.C., on 23 Aug. 1960.

UTILITY LANDING CRAFT (LCU)

4 New Construction

LCU 1620 **LCU 1621** **LCU 1623** **LCU 1624**

Notes

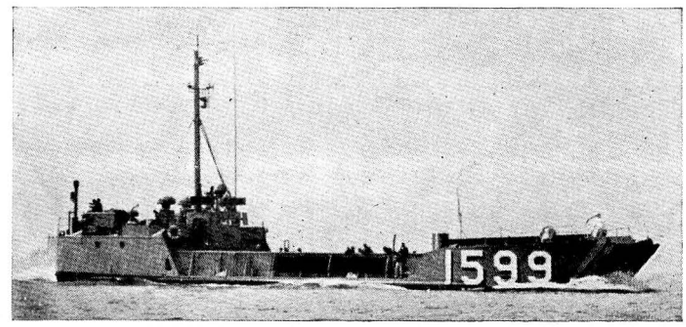
LCU 1623 and 1624 were built under the 1959 new construction program by Gunderson Bros. LCU 1620 and 1621 are being built by Southern Shipbuilding Corporation. All are of the "LCU 1610" class with a length of 135¼ feet.

LCU 1608 **LCU 1609**

Displacement: 200 tons *light* (375 tons *full load*)
Dimensions: 115 × 34 × 6 feet
Machinery: 3 diesels. S.H.P.: 495.
Fitted with Kort-Nozzle propellers

Note

Two new utility landing craft of a new design were authorised under the 1955 construction program. Development contract negotiated with the Staten Island yard of the Bethlehem Steel Company. Laid down 25 Feb. 1957 and Mar. 1957, respectively, and completed in July 1957.



LCU 1599 (Japanese built) — *Added* 1958, *Hajime Fukaya*

38 "1466" Series

LCU 1466-1503 SERIES
LCU 1594-1607 (offshore procurement for MDAP)

Displacement: 180 tons *light* (360 tons *full load*)
Dimensions: 115½ (*w.l.*), 119 (*o.a.*) × 34 × 6 feet
Guns: 2—20 mm.
Machinery: 3 diesels. 3 shafts. S.H.P.: 675

Notes

Announced contracts awarded 2 Nov. 1951. Basically the same as Second World War LCTs. Slightly longer and wider. Chief mission will still be that of putting tanks and their crews on to beaches. Designation was changed from LCT to LSU because of their many additional uses, and subsequently (1952) to LCU. Built to be transferred on LSTs and off-loaded into water from LST. 38 of 1466-1503 series active or building. Five transferred to other countries under MDAP, 1478 to Norway, 1479, 1480, 1501, 1502 to Indo-China. One (LCU 1503) was lost in Aug. 1953.

LCT(6) Type

LCU 501-1465 SERIES (ex-*LSU*, ex-*LCT* (6))

Displacement: 143 to 160 tons *light* (309 to 320 tons *full load*)
Dimensions: 105 (*w.l.*), 119½ (*o.a.*) × 32⅔ × 5 (*max.*) feet.
Guns: 2—20 mm.
Machinery: Gray Marine diesel. 3 shafts. B.H.P.: 675=10 kts.
Complement: 13

General Notes

157 of these LCUs were in service or reserve. Conversion of Nos. 1273, 1330, 1363, 1452, 1463, 1347 for Arctic service completed March 1949. Formerly rated as Landing Ships Tank (Small). Re-designated LSUs late 1949. Reclassified LCUs 15 Apr. 1952. Can carry 4 tanks or 200 tons of cargo.

Recent Disposals

LCU 676, 1288 and 1362 were disposed of in 1957. LCU 1460 was lost at sea in 1952. LCU 569 was stricken in 1957. LCU 638, 700, 779, 1174, 1225, 1271, 1278 were stricken in 1958. LCU 1212, 1244, 1367, 1429 were transferred to foreign countries under the Military Defense Assistance Program in 1959. Many LCUs were reclassified as YFUs in 1959.

10 "1610 Class" (LCU)

LCU 1610 **LCU 1611** **LCU 1612** **LCU 1613** **LCU 1614** **LCU 1615** **LCU 1616** **LCU 1617** **LCU 1618** **LCU 1619**

Dimensions: Length: 135¼ feet (*o.a.*)
Machinery: Speed: 11 kts.
Complement: 12

Notes

Authorised in 1956 appropriations. These new LCUs are longer than the older craft. LCU 1613-1619 were built by the Gunderson Bros. Engineering Corp., Portland, Oregon (Contract awarded May 1957) and LCU 1610-1612 were built by the Christy Corp., Sturgeon Bay, Wisconsin. All laid down in Feb.-Dec. 1958 and launched in July 1958—Mar. 1959. They have LST-type bow doors.

2 "1610 Class" (LCU)

LCU 1622

Notes

Two were authorised under the 1957 budget. Have the same hulls as 1610 class but equipped with vertical axis propellers. LCU 1622 was built by Weaver Shipyard, Texas, she is a steel vessel, powered by diesel engines and equipped with Kort nozzles.

Gas Turbine Notes

The LCU of the "1610" class, authorised under 1957 program, designed for a gas-turbine propulsion unit (an LCU has been fitted with a gas turbine fire pump) was not built.

LSIL Type

Infantry Landing Ship Notes

All the LSILs of the 1 to 1098 series have now been stricken, disposed of, transferred or loaned to foreign navies and none remain in the U.S. Navy, except LSIL 1017.

SURVEYING SHIPS (AGS)

1 Oceanographic Research (New Construction) Type

AGOR 2

Displacement:	1,020 tons *standard* (1,370 tons *full load*)
Dimensions:	209 × 37 × 15 (*max.*) feet
Machinery:	Diesel electric. 1 shaft. Bow propeller. 13 kts.
Range:	12,000 miles
Complement:	8 officers, 14 men, 15 scientists

Notes

Proposed under the 1960 New Construction Program. To be built by Gibbs Corporation, Jacksonville, Florida. Designed for high manoeuvrability at low speeds. Fitted with laboratories and meteorological rocket launching gear. A similar vessel will be constructed for the National Science Foundation. (A large survey ship program is planned: 18 scheduled to be built by 1968; 1 of 1,200 tons requested in 1960; 8 of same type—presumably one per year; 5 displacing between 2,000 and 3,000 tons with a crew of 29 plus 39 scientists; and 4 smaller vessels.)

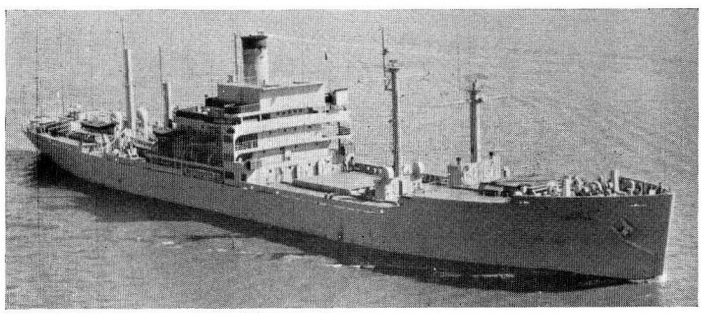
1 Technical Research Type

AG 159 (ex-*Samuel R. Aitken*, MCE 3127)

Measurement:	7,330 tons

Notes

Modified "Liberty" ship. Requested in the Fiscal Year 1960 Conversion Program. To be converted by New York Naval Shipyard. For research and to conduct experiments in communications and electromagnetic radiations.



DUTTON — 1960, *courtesy Mr. W. H. Davis*

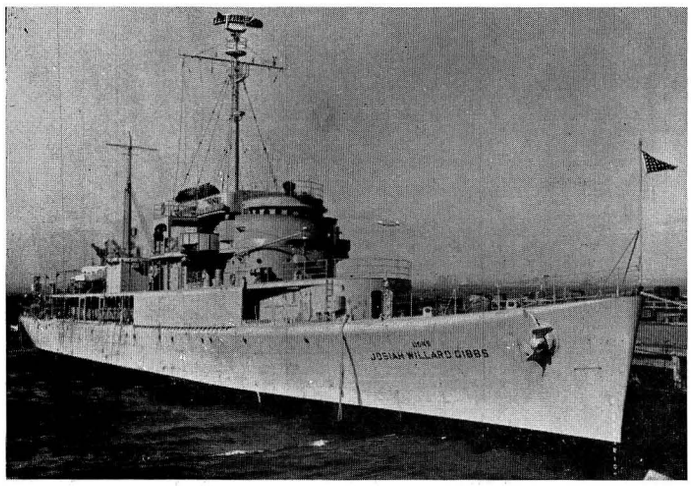
3 Ballistic Missile Support Type

T-AGS
21 BOWDITCH **22 DUTTON** **23 MICHELSON**

Notes

The conversion of three Victory hulls to AGS was requested in the 1958 Appropriations in support of the Fleet Ballistic Missile Program (Polaris). *Dutton* and *Michelson* were converted at Philadelphia Naval Shipyard. *Bowditch* was converted at Charleston Naval Shipyard. Operated by MSTS with civilian crews.

Name	*Conversion started*	*Commissioned*	*Completed*
Bowditch	1 Oct. 1957	12 Sep. 1958	30 Sep. 1958
Dutton	8 Nov. 1957	15 Oct. 1958	16 Nov. 1958
Michelson	1 Mar. 1958	15 Dec. 1958	31 Dec. 1958



JOSIAH WILLARD GIBBS — 1959, *courtesy "Our Navy"*

1 Oceanographic Research (Converted) Type

JOSIAH WILLARD GIBBS, T-AGOR 1 (ex-*San Carlos*, AVP 51)

Displacement:	1,750 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41½ × 13½ (*max.*) feet
Machinery:	2 sets Fairbanks-Morse diesels. 2 shafts. S.H.P.: 6,080 = 18 kts.

Notes

Former seaplane tender. Built by Lake Washington Shipyard, Houghton, Wash. Laid down on 7 Sep. 1942, launched on 20 Dec. 1942, and completed on 21 Mar. 1944. Assigned to Columbia University Hudson Laboratories by ONR in 1959, and operated by MSTS. Crew of 48 plus 28 scientists. Equipped with a 3rd auxiliary propeller for speeds of 4 kts. and less.

1 Coastal Type

LITTLEHALES AGSC 15 (ex-YF 854)

Notes

Former covered lighter converted and reclassified as a coastal survey ship on 14 Feb. 1959 and renamed.

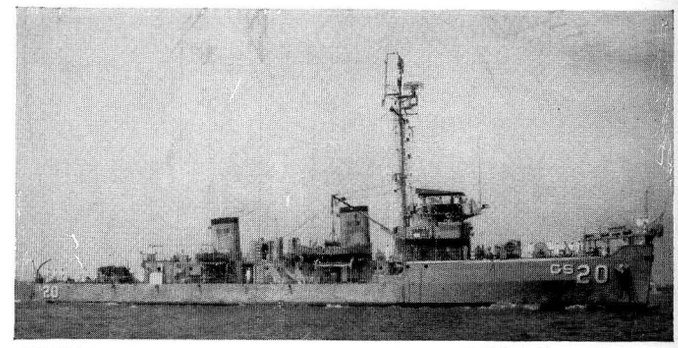
1 Ex-Tug Type

SERRANO, AGS 24 (ex-ATF 112)

Notes

Former fleet ocean tug of the "Apache" class reclassified from ATF to AGS on 15 June 1960.

Surveying Ships—*continued*



PREVAIL — 1957, *U.S. Navy, Official*

4 Ex-Fleet Minesweeper Type

PREVAIL (13 Sep. 1942) **REQUISITE** (25 July 1942)
PURSUIT (12 June 1942) **SHELDRAKE** (12 Feb. 1942)

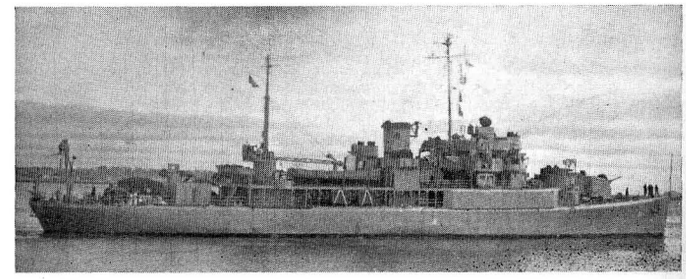
Displacement:	890 tons *standard* (1,250 tons *full load*)
Dimensions:	221½ (*o.a.*) × 32⅓ × 11 (*max.*) feet
Guns:	Removed.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,532 = 18 kts.
Complement:	100

General Notes

Former minesweepers *AM 107*, *AM 108*, *AM 109* and *AM 62*, respectively, reclassified as surveying vessels, *AGS 20*, *AGS 17*, *AGS 18* and *AGS 19* early in 1952. Launch dates above.

Gunnery Notes

Guns were removed in 1957.



REHOBOTH — *P. Sweeney*

2 Ex-Seaplane Tender Type

REHOBOTH (8 Nov. 1942) **SAN PABLO** (31 Mar. 1942

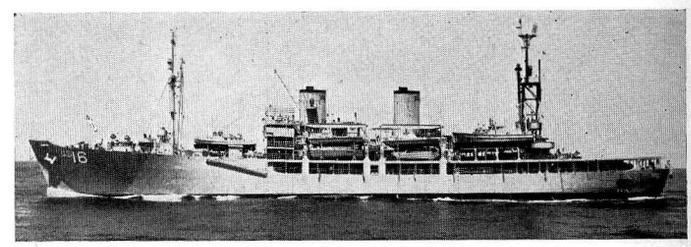
Displacement:	1,766 tons *standard* (2,800 tons *full load*)
Dimensions:	300 (*w.l.*), 310¾ (*o.a.*) × 41½ × 13½ (*max.*) feet
Guns:	Removed
Machinery:	Fairbanks-Morse diesel-electric. 2 shafts. B.H.P.: 6,080 = 18·2 kts.
Complement:	215

General Notes

Former Seaplane Tenders (Small). These vessels were reclassified as AGS and assigned to duties as deep-sea hydrographic-surveying ships under the technical control of the Hydrographer. AGS 50 and 30, respectively. Launch dates above. Built by Lake Washington Shipyard and Associated Shipbuilding, respectively.

Gunnery Notes

Guns were removed in 1957.



MAURY — *United States Navy, Official*

2 Ex-Attack Cargo Ship Type

MAURY (ex-*Renate*, 31 Jan. 1945) **TANNER** (ex-*Pamina*, 5 Jan. 1945)

Displacement:	4,203 tons *standard* (6,500 tons *full load*)
Dimensions:	400 (*w.l.*), 426 (*o.a.*) × 58 × 17 (*max.*) feet
Guns:	8—40 mm. AA., 20 mm. AA
Machinery:	Westinghouse turbo-electric. 2 shafts. B.H.P.: 6,000 = 17 kts.
Boilers:	2 Wickes

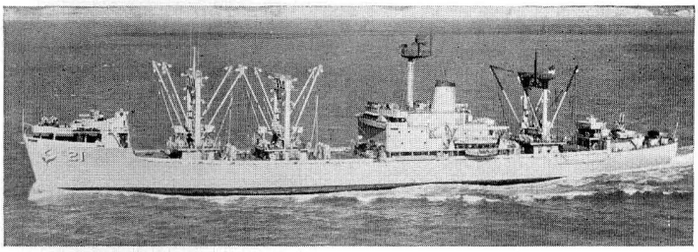
General Notes

AGS 16 (ex-*AKA 36*) and AGS 15 (ex-*AKA 34*), respectively. Both built by Walsh-Kaiser Co. Inc., Providence, R.I. S 4-SE2-B1 type. Launch dates above. Converted in 1946.

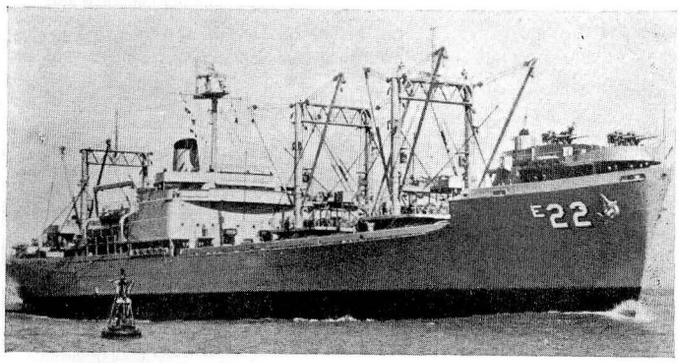
Helicopter Notes

Helicopter flight deck on stern.

AMMUNITION SHIPS (AE)



SURIBACHI — *Added* 1960, *Skyfotos*



MAUNA KEA — 1958, *U.S. Navy, Official*

5 "Suribachi" Class

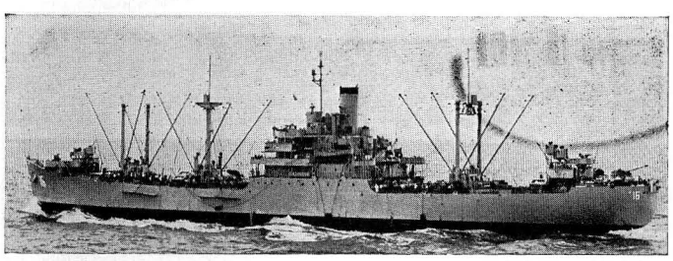
AE
25 HALEAKALA (17 Feb. 1959)
22 MAUNA KEA (3 May 1956)
23 NITRO (25 June 1958)

AE
24 PYRO (5 Nov. 1958)
21 SURIBACHI (2 Nov. 1955)

Displacement:	7,470 tons *light*, 10,000 tons *standard* (17,400 tons *full load*)
Measurement:	7,500 tons *deadweight*
Dimensions:	488½ (*pp.*), 512 (*o.a.*) × 72 × 24 feet
Guns:	4—3 inch, 50 cal. AA. (twin mounts)
Machinery:	Steam turbines. 1 shaft. H.P. 16,000=21 kts.
Complement:	350

General Notes
The construction of two new ammunition ships (A E) was authorised in 1954. Design contract was awarded to Bethlehem Steel Co., Quincy, Mass. Designed especially to meet the strenuous requirements of present day rapid replenishment at sea. Built from the hull up as Navy ships. Have elevators for internal handling of ammunition and explosives, the most up-to-date methods of stowage, air conditioning, redesigned crew quarters and most recent habitability improvements. Built by Bethlehem, Sparrows Point, Md., Shipyard. *Mauna Kea* was laid down on 16 May 1955, *Suribachi* was laid down on 31 Jan. 1955. Launch dates above. *Suribachi* was completed in Nov. 1956, *Mauna Kea* on 30 Mar. 1957. The 1956 ship-building program authorised the construction of *Nitro and Pyro*, laid down on 20 May and 21 Oct. 1957, respectively, and the 1957 program *Haleakala*, laid down on 10 Mar. 1958, all at the Bethlehem-Sparrows Point Shipyard, Inc., Baltimore, Md. *Nitro* was commissioned on 1 May 1959, *Pyro* on 24 July 1959, *Haleakala* on 3 Nov. 1959. Another to have been built under the 1959 program was cancelled. *Nitro* and *Pyro* are fitted with constant tension devices designed for rapid transfer of amunition.

Photograph Notes
Another photograph of *Suribachi* appears in the 1957-58 edition (starboard broadside aerial view).



MOUNT KATMAI — 1955, *U.S. Navy, Official*

7 "Wrangell" Class

DIAMOND HEAD (3 Feb. 1945)
FIREDRAKE (ex-*Winged Racer*, 12 May 1944)
GREAT SITKIN (26 Jan. 1945)
MOUNT KATMAI (6 Jan. 1945)
PARICUTIN (30 Jan. 1945)
VESUVIUS (ex-*Gamecock*, 26 May 1944)
WRANGELL (14 Apr. 1944)

Displacement:	6,350 tons *light* (15,295 tons *full load*)
Dimensions:	435 (*w.l.*), 459½ (*o.a.*) × 63 × 28½ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 6,000=16·4 kts.
Complement:	267

Notes
Nos. A E 19, 14, 17, 16, 18, 15, 12, respectively. C2 type. A photograph of *Wrangell* appears in the 1946-47 to 1954-55 editions.

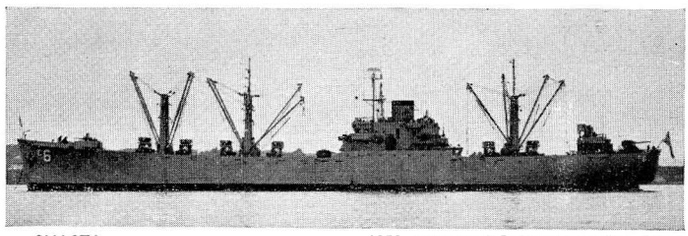
2 "Sangay" Class

FOMALHAUT (ex-*Cape Lookout*, 25 Jan. 1941)
SANGAY(ex-*Cape Sable*, 5 Apr. 1942

Displacement:	5,826 tons *light* (11,653 tons *full load*)
Dimensions:	390 (*w.l.*), 412¼ (*o.a.*) × 60 × 23½ feet
Guns:	1—5 inch, 6—40 mm. AA.
Machinery:	Nordberg diesel. B.H.P.: 4,000=14·5 kts.
Complement:	308

Notes
Nos. A E 20, 10, respectively. Maritime Commission C1-A (Diesel) type. Former No. AK 22 redesignated No. A E 20. Both built by Penn Shipyards, Beaumont, Texas. Launch dates above. Out of commission, in reserve. A photograph of *Sangay* appears in the 1947-48 to 1957-58 editions.

Ammunition Ships—*continued*



SHASTA — 1958, *courtesy of Godfrey H. Walker, Esq.*

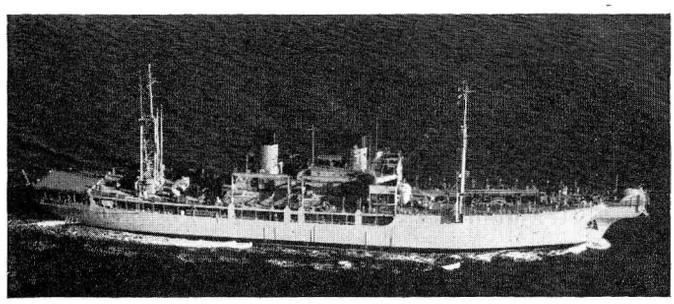
7 "Lassen" Class

AKUTAN (17 Sep. 1944)
LASSEN (ex-*Shooting Star*, 1 Jan. 1940)
MAUNA LOA (14 Apr. 1943)
MAZAMA (15 Aug. 1943)
MOUNT BAKER (ex-*Kilauea*, ex-*Surprise* 6 Aug. 1940)
RAINIER (ex-*Rainbow*, 1 Mar. 1941
SHASTA (ex-*Comet*, 9 July 1941

Displacement:	5,220 tons *light* (14,225 tons *full load*)
Dimensions:	435 (*w.l.*), 459 (*o.a.*) × 63 × 26½ feet
Guns:	1—5 inch, 4—3 inch, 4—40 mm. AA.
Machinery:	2 Nordberg diesels. B.H.P.: 6,000=15·3 kts.
Complement:	281

Notes
All seven built by Tampa S.B. Co. Nos. A E 13, 2, 8, 9, 4, 5, 6, respectively. Modified C2 type, converted by Navy. Carries 5,000 tons of cargo. War loss: *Mount Hood*. A photograph of *Mazama* appears in the 1955-56 to 1957-58 editions.

CABLE REPAIR SHIPS (ARC)



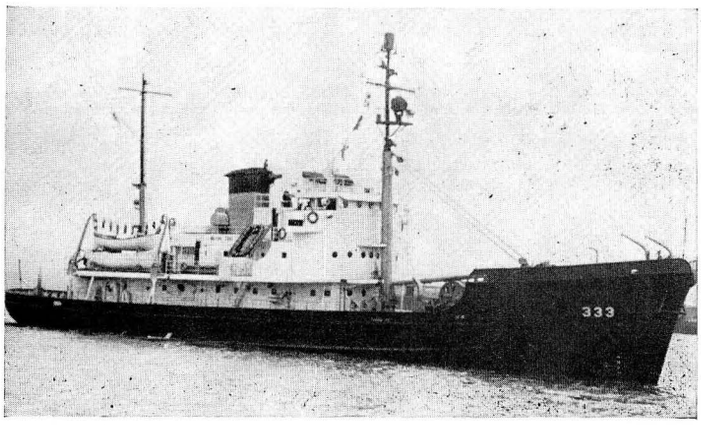
THOR — 1957, *U.S. Navy, Official*

2 "Aeolus" Class

ARC 3 AEOLUS (ex-*Turandot*, *AKA* 47)
ARC 4 THOR (ex-*Vanadis*, *AKA* 49)

Displacement:	7,000 tons
Dimensions:	400 (*w.l.*), 426 (*o.a.*) × 58 × 16 feet
Machinery:	Westinghouse turbo-electric. S.H.P.: 6,000=16·9 kts.

Notes
Having been laid up in the Maritime Administration Reserve Fleet since June 1946, the *Aeolus* was re-acquired by the Navy on 4 Nov. 1954. Both converted to Cable Laying or Repair Ships by the Key Highway Plant of Bethlehem Steel, Baltimore, Maryland. *Aeolus* commissioned in May 1955. *Thor*, built by Walsh Kaiser Company, Providence, commissioned on 3 Jan. 1956. The conversions of two more ARC of 4,100 tons requested in the 1956 program were not undertaken.



YAMACRAW — *United States Coast Guard, Official*

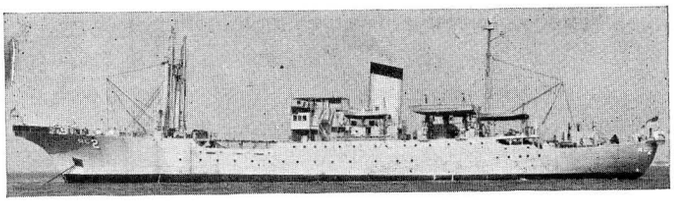
1 Minelayer Type

YAMACRAW ARC 5 (ex-U.S.C.G. WARC 333, ex-*Trapper*, ex-ACM 9)

Displacement:	1,054 tons *standard* (1,250 tons *full load*)
Dimensions:	188⅔ (*o.a.*) × 37 × 12 (*max.*) feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 1,200=12 kts.

Notes
Launched in 1943. Originally an Army minelayer and subsequently a U.S. Navy auxiliary minelayer, afterwards employed as a U.S. Coastguard cable layer. Transferred to the U.S Navy on a loan basis as a cable repair ship in 1959. Commissioned on 30 Apr. 1959.

Cable Repair Ships—*continued*



NEPTUNE — 1954, *U.S. Navy, Official*

1 "Neptune" Type

ARC 2 NEPTUNE (ex-*William H. G. Bullard*)

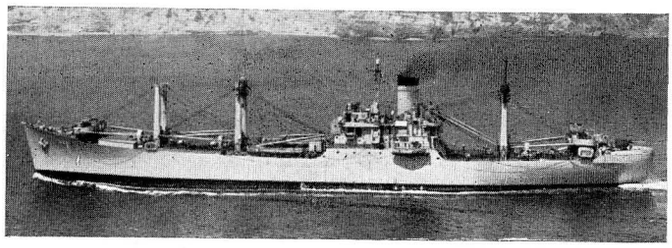
Measurement:	3,929 tons *gross*, 4,860 tons *deadweight*
Dimensions:	322 × 47 × 33½ feet
Machinery:	Reciprocating Unaflow engines. 2 shafts. I.H.P.: 4,800= 14 kts.

General Notes
Built by Pusey and Jones Corpn., Wilmington, Del. Launched 1945. Completed Feb. 1946. Acquired from Maritime Administration 1953. S3-S2-BP1 type.

Transfer Notes
The cable repair ship of the ex-LSM type, *Portunus*, ARC 1 (ex-LSM 275) was transferred to Portugal on 1 May 1959.

Recent Disposals
The cable repair ship of the wooden type, *Nashawena*, YAG 35 (ex-AG 142) was stricken in 1960.

GENERAL STORES ISSUE SHIPS (AKS)



CASTOR — *Added* 1957, *Ted Stone*

2 "Castor" Class

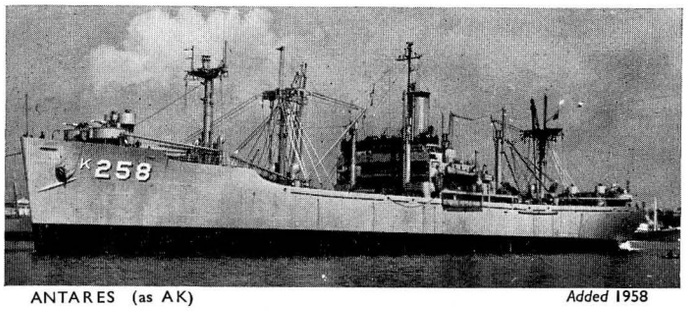
CASTOR (ex-*Challenge*) — **POLLUX** (ex-*Nancy Lykes*)

Displacement:	6,365, and 6,335 tons *light*, respectively (13,860 to 14,400 tons *full load*). Cargo capacity: 5,400 tons
Dimensions:	435 (*pp.*), 459½ (*o.a.*) × 63 × 26½ (*max.*) feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Geared turbines. S.H.P.: 6,000=16·4 kts.
Boilers:	2 Babcock & Wilcox

General Notes
Nos. AKS 1 and AKS 4 (ex-AK 54), respectively. C2 Cargo and C2-F types. All built by Federal Shipbuilding & Dry Dock, Kearny, N.J., and launched 20 May 1939 and 1941, respectively. *Castor* completed a $400,000 internal conversion at San Francisco in 1956 for carrying combined "technical" and general stores.

Recent Disposals
Of this type *Mercury*, AKS 20 (ex-AK 42, ex-*Mormactern*, ex-*Lightning*) was stricken in 1960.
All five of the LST type, *Chimon*, AKS 31 (ex-AG 150, ex-LST 1102), *Colington*, AKS 29 (ex-AG 148, ex-LST 1085), *Electron*, AKS 27 (ex-AG 146, ex-LST 1070), *League Island*, AKS 30 (ex-AG 149, ex-LST 1097), and *Proton*, AKS 28 (ex-AG 147, ex-LST 1078) were stricken in 1960.
All six of the "Island" class, *Avery Island*, AKS 24, *Belle Isle*, AKS 21, *Coaster's Harbor*, AKS 22, *Cuttyhunk Island*, AKS 23, *Indian Island*, AKS 25, and *Kent Island*, AKS 26, were also stricken in 1960.

Cancellation Notes
The prototype General Stores Issue Ship planned by Bethlehem Steel Co., Quincy, was not authorised and has not been again requested. See particulars in the 1958-59 edition.



ANTARES (as AK) — *Added* 1958

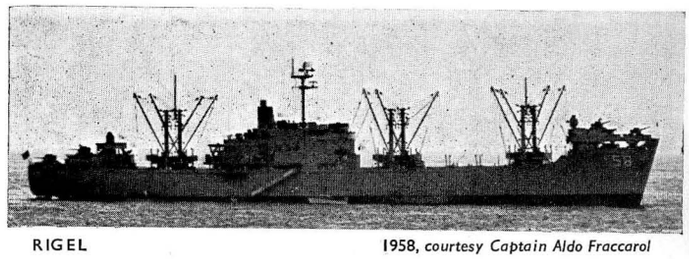
2 "Altair" Class

ALTAIR (ex-*Aberdeen Victory*) — **ANTARES** (ex-*Nampa Victory*)

Displacement:	4,420 tons *light* (15,580 tons *full load*)
Dimensions:	455¼ (*o.a.*), × 62 × 28½ (*max.*) feet
Guns:	8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500=16·5 kts.

Notes
VC 2-AP 3 type. Laid down in 1944. *Altair*, AKS 32 (ex-AK 257) was reclassified as AKS in 1952. Now has a helicopter platform on the fantail. *Antares*, AKS 33 (ex-AK 258) was reclassified as AKS on 1 Apr. 1959.

STORE SHIPS (AF)



RIGEL — 1958, *courtesy Captain Aldo Fraccarol*

2 "Rigel" Class

RIGEL (15 Mar. 1955) — **VEGA** (26 Apr. 1955)

Displacement:	7,950 tons *light*, 15,540 tons *full load*
Measurement:	10,850 tons *gross*
Dimensions:	475 (*w.l.*), 502 (*o.a.*) × 72 × 43½ (depth) feet
Guns:	8—3 inch
Machinery:	Steam turbine. 1 shaft. S.H.P.: 12,500=18 kts.

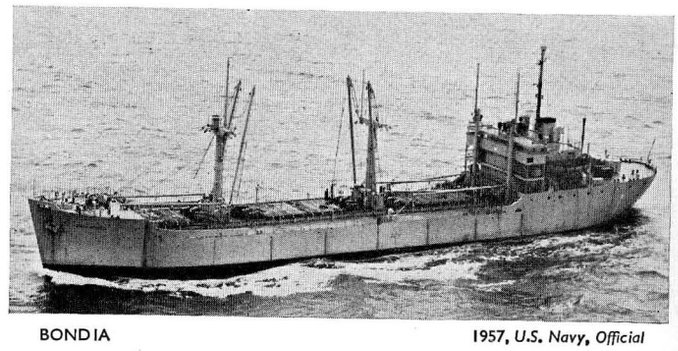
Notes
Contract awarded to Ingall's Shipbuilding Co., Pascagoula, 13 Aug. 1953. R3-S-4A type. $12,440,000 each. Keels laid 15 Mar. 1954 and 24 May 1954, respectively. Launch dates above. *Rigel* commissioned in 1955. *Vega* 10 Nov. 1955. 360,000 cu. ft. of refrigerated space. These are the first AFs built since the Second World War with Navy designed hulls. Nos. AF 58 and AF 59, respectively.

3 "Alstede" Class

ALSTEDE — **PICTOR** (ex-*Great Republic*)
ALUDRA (ex- *Matchless*) — **ZELIMA**

Displacement:	6,914 tons *light* (15,500 tons *full load*)
Dimensions:	459½ × 63 × 28 feet
Machinery:	Turbine. S.H.P.: 6,000=16 kts.

Notes
Nos. AF 48, AF 55, AF 49 and AF 54 respectively all built by Moore Dry Dock Co., and launched in 1945 and 1946. R2-S-BV design reefer type. *Aludra* acquired for conversion by Navy. *Pictor* was transferred from Maritime Administration to U.S. Navy. C2-S-B1 type similar to R2-S-BV1 design, except that R2s were built as reefers and C2s as cargo ships. Same type as "Eagle" class.



BONDIA — 1957, *U.S. Navy, Official*

8 "Adria" Class

ADRIA (16 Apr. 1944) — **LAURENTIA** (ex-*Wall* and *Crown*, 12 Dec. 1944) (U.S.N.S.)
AREQUIPA (4 May, 1944)
BONDIA (9 Nov. 1944) (U.S.N.S. — **LIOBA** (21 Aug. 1944)
CORDUBA (11 June 1944) — **MALABAR** (17 Sep. 1944)
KARIN (27 June 1944)

Displacement:	3,139 tons *light* (7,435 tons *full load*)
Dimensions:	320 (*w.l.*), 338½ (*o.a.*) × 50 × 21 (*max.*) feet
Guns:	1—3 inch
Machinery:	Nordberg diesel. B.H.P.: 1,700=11·5 kts

Notes
Launch dates above. AF 30-33, 36-38, 42. *Kerstin* and *Latona* were returned to Maritime Commission. 2,100 tons cargo. R1-M-AV 3 type. *Bondia* and *Laurentia* are assigned to Military Sea Transportation Service, unarmed. *Valentine* was transferred to the Maritime Administration by MSTS on 16 Apr. 1959. *Merapi*, AF 47, was transferred to the Maritime Administration in 1960. A photograph of *Lioba* appears in 1953-54 to 1957-58 editions.



BLUE JACKET — *Added* 1959, *Skyfotos*

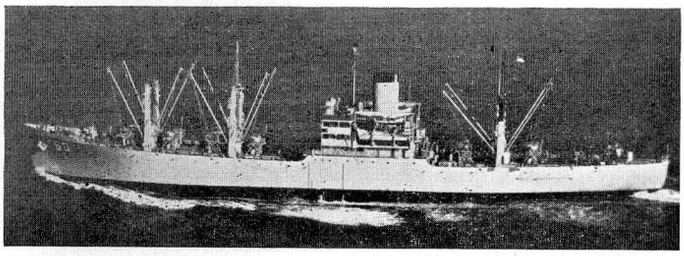
3 "Eagle" Class

T-AF 50 BALD EAGLE — **T-AF 51 BLUE JACKET** — **T-AF 52 GOLDEN EAGLE**

Displacement:	7,430 tons *light* (12,800 tons *full load*)
Dimensions:	459½ (*o.a.*) × 63 × 24 (*max.*) feet
Machinery:	Turbine. S.H.P.: 6,000=16·4 kts.

Notes
All built by Moore Dry Dock Co. Launched in 1942. Military Sea Transportation Service Ships designated USNS. MC Type C2-S-B1. A photograph of *Golden Eagle* appears in the 1953-54 to 1957-58 editions.

Store Ships—*continued*



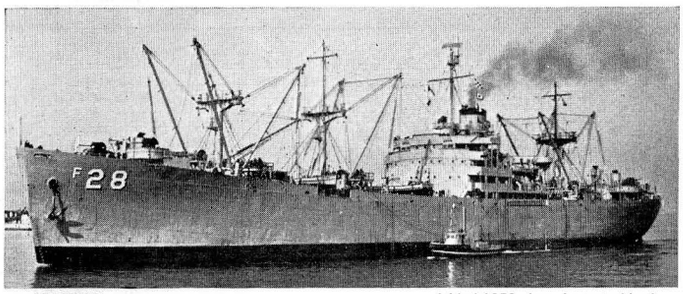
SIRIUS 1959, *United States Navy, Official*

1 "Sirius" Class

SIRIUS (ex-SS *Trade Wind*)

Displacement:	7,430 tons *light* (12,800 tons *full load*)
Dimensions:	459¼ (*o.a.*) × 63 × 24
Machinery:	Geared turbines. S.H.P.: 6,000 = 16·4 kts.

Notes
C2-S-B1 refrigerator ship, launched and completed in 1943, acquired by Navy 1956 and renamed. AF 60. Commissioned 12 Jan. 1957. She replaced *Polaris*, which was removed from the Navy List and transferred to the Maritime Administration on 12 Jan. 1957.



HYADES *Added* 1959, *Ing. Augusto Nani*

2 "Hyades" Class

GRAFFIAS (ex-*Topa Topa*) **HYADES** (ex-*Iberville*)

Displacement:	6,313 tons *light* (15,300 tons *full load*)
Dimensions:	445 (*pp.*), 463¾ (*o.a.*) × 63 × 28 feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Geared turbines. S.H.P.: 6,000 = 15·5 kts.
Boilers:	2 Babcock & Wilcox
Complement:	252

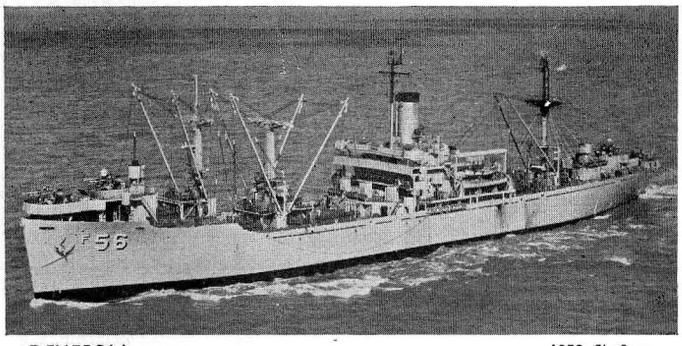
Notes
AF 29 and 28. Launched 12 Dec. 1943 and 12 June 1942, respectively. Cargo capacity 5,300 tons. Another photograph of *Hyades* appears in the 1954-55 to 1957-58 editions.

1 "Aldebaran" Class

ALDEBARAN (ex-*Staghound*)

Displacement:	6,501 tons *light* (13,860 tons *full load*)
Dimensions:	435 (*w.l.*), 459¼ (*o.a.*) × 63 × 25⅝ (*max.*) feet
Guns:	1—5 inch, 4—3 inch
Machinery:	Geared turbines. S.H.P.: 6,000 = 16·4 kts.
Boilers:	2 Babcock & Wilcox

Notes
Launched 21 June 1939. No. AF 10. C-2 Cargo type. A photograph of *Aldebaran* appears in the 1957-58 edition.



DENEBOLA 1958, *Skyfotos*

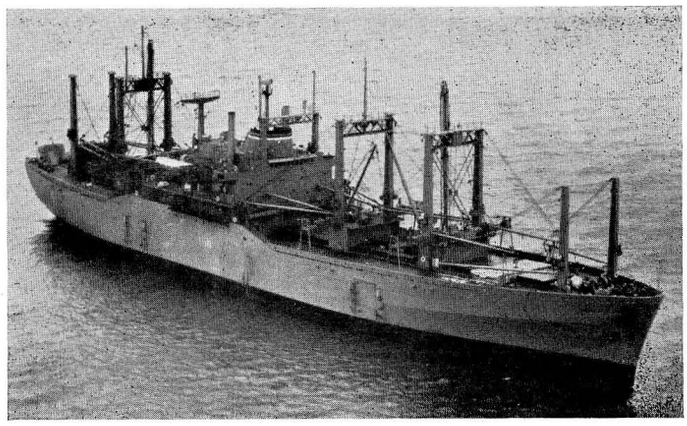
2 "Denebola" Class

DENEBOLA (ex-*Hibbing Victory*) **REGULUS** (ex-*Escanaba Victory*)

Displacement:	6,700 tons *light* (12,130 tons *full load*)
Measurement:	8,000 tons *deadweight*
Dimensions:	455½ × 62 × 28½ feet
Guns:	8—3 inch, 50 cal. automatic AA. (twin mounts)
Machinery:	Westinghouse geared turbines. 1 shaft. S.H.P.: 8 500 = 17 kts.
Complement:	225

Notes
Maritime Administration ships acquired by U.S. Navy, 1952, for conversion to refrigerator store ships. AF 56 and AF 57, respectively. VC2-S-AP 3 type. Built 1944 by Oregon Shipbuilding Co. *Denebola* commissioned 20 Jan. 1954 after conversion by Todd, Brooklyn, *Regulus* 3 Feb. 1954. Insulated holds, refrigerated system, quick acting hatch covers. Conversion cost $8,000,000. Another photograph of *Denebola* appears in the 1956-67 and 1957-58 editions.

CARGO SHIPS (AK)



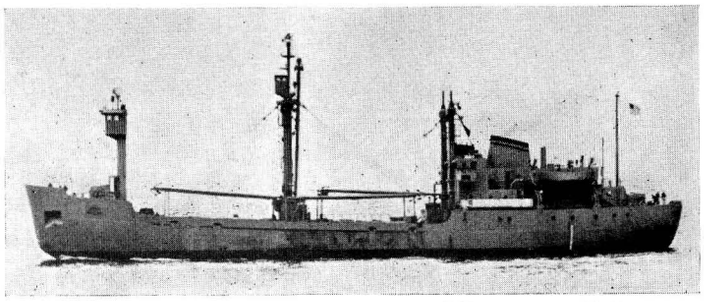
COMET 1959, *United States Navy, Official*

1 "Comet" Class

T-AK 269 COMET (31 July 1957)

Displacement:	7,605 tons *light* (18,150 tons *full load*)
Measurement:	12,750 tons *gross* 6,500 tons *deadweight*
Dimensions:	465 (*pp.*), 499 (*o.a.*) × 78 × 28¾ (*max.*) feet
Machinery:	General Electric geared turbines. 2 shafts. S.H.P.: 13,200 = 18 kts.
Boilers:	2 Babcock & Wilcox
Complement:	73

Notes
Roll-on, Roll-off vehicle carrier building for MSTS by Sun Shipbuilding & Dry Dock Co. C3-ST-14A type. Laid down 15 May 1956. Completed on 27 Jan. 1958 (taken over on 30 Sep. 1957). Has ramp system for loading and discharging. The hull is strengthened against ice. Fitted with stern ramp. Can accommodate 700 vehicles in two after holds. The forward holds are for general cargo. Equipped with Denny-Brown Stabilisers.



MIZAR 1960, *courtesy Mr. W. H. Davis*

3 Arctic Type

T-AK 270 ELTANIN (16 Jan. 1957) **T-AK 271 MIRFAK** (5 Aug. 1957) **T-AK 272 MIZAR** (7 Oct. 1957)

Displacement:	2,036 tons *light*, 4,942 tons *full load*
Measurement:	2,486 tons *gross*, 1,300 tons *deadweight*
Dimensions:	247¾ (*pp.*), 256¾ (*w.l.*), 262½ (*o.a.*) × 51½ × 18⅝ feet
Machinery:	2 ALCO diesels with Westinghouse electric motors. 2 shaft B.H.P.: 3,200 = 13 kts.

Notes
Built for MSTS by Avondale Marine Ways, New Orleans, La. Designed for Arctic operation with hull strengthened against ice. C1-ME2-13a type. Laid down 4 June 1956, 5 July. 1956 and 21 Jan. 1957, respectively. Launch dates above. Taken over on 2 Aug. 1957, 4 Oct. 1957 and 22 Nov. 1957.

2 "Victory" Type

ALCOR (ex-*Rockland Victory*) **BETELGEUSE** (ex-*Columbia Victory*)

Displacement:	4,420 tons (*Navy light*), 15,580 tons *full load* (Maritime Commission deadweight 10,850 tons)
Dimensions:	455½ (*o.a.*) × 62 × 28½ (*max.*) feet
Guns:	8—40 mm. AA.
Machinery:	Geared turbines. S.H.P.: 8,500 = 16·5 kts.

Notes
VC2-S-AP3 type. Laid down in 1944. Reactivated for the Navy in late 1951 from the Maritime Administration Reserve Fleet. AK 259 and 260, respectively. Sister ship *Antares*, AK 258, was reclassified as a General Stores Issue Ship, AKS, see previous page. A photograph of *Alcor* appears in the 1953-54 to 1957-58 editions.

Recent Disposals
Of the "Alcona" class, *Sussex*, AK 213, was stricken on 1 Jan. 1960, and *Alcona*, AK 157, *Beltrami*, AK 162, *Faribault*, AK 179, and *Grainger*, AK 184, at the end of 1960.
All six vessels of the "Alchiba" class, namely *Alchiba* (ex-*Chalres E. Winsor*), *Algorab* (ex-*Elisha Whitney*), *Aquarius* (ex-*John D. Whitney*), *Centaurus* (ex-*Nathanial Brown*), *Cepheus* (ex-*Richard W. Dixie*) and *Serpens* (ex-*William Lester*), AK 261 to 266, respectively, N3-S-A2 type, non-commissioned vessels on Navy List, formerly on loan to R.O.K. but carrying U.S.N. names and designation, were stricken on 1 Feb. 1960 and are being scrapped.

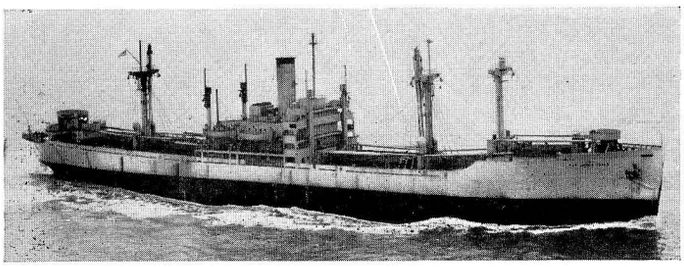
1 Ex-LSD Type

T-AK
273 TAURUS (ex-S.S. *Carib Queen*, ex-*Fort Snelling*, LSD 23)

Displacement:	6,000 tons *standard* (9,375 tons *full load*)
Dimensions:	454 (*w.l.*), 457¾ (*o.a.*) × 72½ × 18 (*max.*) feet
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 9,000 = 15·4 kts.

Notes
Former U.S. Navy dock landing ship, laid down on 8 Nov. 1944 and hull built by the Gulf Shipbuilding Corporation, Chickasaw, Ala. in 1945, but not completed because of the end of the war. Converted into a roll-on, roll-off trailer ship in 1956 for commercial operation. Acquired by MSTS from the Maritime Administration in 1958.

Cargo Ships—*continued*



PRIVATE JOHN R. TOWLE — *Added* 1959, *Skyfotos*

8 *Type VC2-S-AP3*

T-AK
237 GREENVILLE VICTORY
238 HAITI VICTORY
239 KINGSPORT VICTORY
240 PRIVATE JOHN R. TOWLE
(ex-*Appleton Victory*)

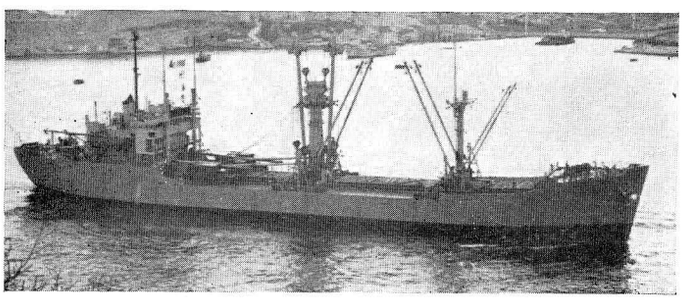
T-AK
256 DALTON VICTORY
275 PRIVATE JOSEPH F. MERRELL
(ex-*Grange Victory*)
276 SERGEANT JACK J. PENDLETON

Displacement: 6,720 tons *light* (12,450 tons *full load*)
Dimensions: 455 (*o.a.*) × 62 × 24 (*max.*) feet
Machinery: Turbine. S.H.P.: 8,500 = 16·5 to 17·7 kts.

General Notes
Greenville Victory has been winterized. Photograph of *Kingsport Victory* in the 1957-58 edition. *Dalton Victory* and *Haiti Victory* (both USNS) are specially equipped to recover satellite capsules or missiles in the Pacific Missile Range, and are fitted with a helicopter deck and hangar for two helicopters.

Reclassification Notes
The former Military Sea Transportation Service Aircraft Cargo and Ferry Ships *Lieut. James E. Robinson*, *Private Joseph F. Merrell* and *Sergeant Jack J. Pendelton*, AKV 3, AKV 4 and AKV 5, respectively, were reclassified as Cargo Ships, AK 274, AK 275 and AK 276 on 7 May 1959.

Recent Disposals
Lieut. James E. Robinson, T-AK 274, was transferred to the Maritime Administration in 1960.



SHORT SPLICE — 1958, *A. & J. Pavia*

6 *Type C1-M-AV1*

T-AK
246 COLONEL WILLIAM J. O BRIEN
(ex-*Maiden's Eye*)
249 SHORT SPLICE
250 PVT. FRANK J. PETRARCA (ex-*Long Splice*)

T-AK
180 FENTRESS (ex-V 206)
188 HERKIMER (ex-V 203)
198 MUSKINGUM (ex-V 208)

Displacement: 2,460 tons *light* (7,450 tons *full load*)
Dimensions: 338¾ × 50 × 21 feet
Machinery: Diesel. B.H.P.: 1,750 = 11·5 kts.

Notes
Colonel William J. O'Brien and *Short Splice* converted to heavy lift ships with two 80-ton cranes, Aug.-Nov. 1954, A.K 247 laid up in Atlantic Reserve Fleet 1954. T-AK 200, *Pembina* and T-AK 245, *Captain Arlo L. Olsen* (ex-*Bell Ringer*) were transferred to the Maritime Administration in 1958. *Pembina*, *Private John F. Thorson*, T-AK 247, were stricken from the Navy List in 1959. *Sergeant George Peterson*, T-AK 248, was transferred to the Maritime Administration by MSTS. *Pvt. Frank J. Petrarca*, T-AK 250, stricken on 9 Apr. 1959, was re-acquired by MSTS in 1960. *Hennepin*, T-AK 187 (ex-V 205) and *Sergeant George Peterson*, T-AK 248, stricken on 27 Mar. 1959, were transferred to the Maritime Administration.

1 *Type C4-S-B1*
T-AK 255 PVT. LEONARD C. BROSTROM
(ex-*Marine Eagle*)

1 *Type C4-S-B5*
T-AK 267 MARINE FIDDLER

Dimensions: 520 (*o.a.*) × 72 × 33 feet
Machinery: Geared turbine. S.H.P.: 9,000 = 17 kts.

Notes
Marine Fiddler built 1945, acquired from Maritime Administration Reserve Fleet 1952. Both converted to heavy lift ships for carrying locomotives and general cargo 1954. A photograph of *Private Leonard C. Brostrom* appears in the 1954-55 to 1957-58 editions.

8 *Type VC2-S-AP2*

T-AK
241 PRIVATE FRANCIS X. McGRAW
(ex-*Wabash Victory*)
242 SERGEANT ANDREW MILLER
(ex-*Radcliffe Victory*)
243 SERGEANT ARCHER T. GAMMON
(ex-*Yale Victory*)
244 SERGEANT MORRIS E. CRAIN
(ex-*Mills Victory*)

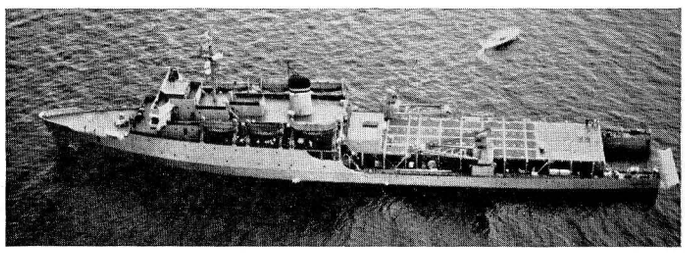
T-AK
251 LT. GEORGE W. G. BOYCE
(ex-*Waterville Victory*)
252 LT. ROBERT CRAIG
(ex-*Bowling Green Victory*)
***253 PVT. JOE E. MANN**
(ex-*Owensboro Victory*)
254 SGT. TRUMAN KIMBRO
(ex-*Hastings Victory*)

Displacement: 6,700 tons *light* (12,400 tons *full load*)
Dimensions: 455 × 62 × 24 feet
Machinery: Geared turbine. S.H.P.: 6,000 = 15·5 kts.

Notes
Pvt. Joe E. Mann was fitted out as a range instrumentation and telemetry ship for the Pacific Missile Range in Oct. 1958. Based at Pt. Mugu, Calif, as a tracking and recovery ship.

Recent Disposals
The two *N* 3-S-A1 type cargo ships *Sagitta*, T-AK 87 (ex-S.S. *Moses Pike*) and *Vela*, T-AK 89 (ex-S.S. *Charles A. Raulett*), stricken on 3 Apr. 1959 were transferred to the Maritime Administration in 1959-60.

DOCK CARGO SHIP (AKD)



POINT BARROW — 1959, *United States Navy, Official*

T-AKD 1 POINT BARROW (25 May 1957)

Displacement: 5,940 tons *light*, 9,415 tons *standard* (14,094 tons *full load*)
Measurement: 12,000 tons *gross*, 4,020 tons *deadweight*
Dimensions: 462 (*pp.*), 475 (*w.l.*) 492 (*o.a.*) × 78 × 22 feet
Machinery: Turbine. 2 shafts. S.H.P.: 6,000 = 18 kts.
Radius: 10,000 miles cruising.
Complement: 66 plus 42 transients

Notes
Built for MSTS by Maryland Shipbuilding & Dry Dock Co. Laid down on 18 Sep. 1956 and commissioned on 28 Feb. 1958. Delivered to MSTS on 29 May 1958. S2-ST-23A type. Roll-on, Roll-off ship to load vehicles on ramp, and have overhead gear for general cargo. Arctic-ised and adapted for polar exploration.

LIGHT CARGO SHIPS (AKL)

5 "Camano" Class

BANNER 25 **BRULE 28** **DEAL 2** **MARK 12** **RYER 9**

Notes
Small cargo carriers, taken over from Army. AKL 2, 9, 12, 13, 25, 28 (ex-AG 130-140, 143-145). FS type. Armament: 20 mm. AKL 25, 28, named, armed and commissioned in 1952 (ex-USNS). *Sharps* (AK 10 transferred to Korea under MDAP 1956).

Recent Disposals
Tingles, AKL 13, was stricken from the Navy List in 1959. *Camano*, AKL 1, *Estero*, AKL 5, *Hewell*, AKL 14, and *Jekyl*, AKL 6, were stricken in 1960.
Alcyone (ex-*FS* 195), *Alhena* (ex-*FS* 257), *Almaack* (ex-*FS* 283), *Deimos* (ex-*FS* 390), *Pamina* (ex-*FS* 528) and *Renate* (ex-*FS* 547), same type as "Camano" class, acquired from the Army in 1952, AKL 37-42, respectively, formerly on loan to Korea but carrying U.S. names and designations, were stricken on 1 Feb. 1960.

REDBUD

Notes
T-AKL 398. Former U.S. Coast Guard Tender (WAGL). Launched on 11 Sep. 1943. Of "Basswood" class (see later page), transferred to Navy for special transport and supply service in Greenland, and in Feb. 1952 to Military Sea Transportation Service as multi-purpose freighter combination icebreaker, light cargo vessel and radio communications ship. USNS.

7 T-AKL Type

T-AKL	T-AKL	T-AKL	T-AKL
17 (ex-*FS* 289)	**20** (ex-*FS* 193)	**29** (ex-*FS* 371)	**31** (ex-*FS* 407)
	22 (ex-*FS* 256)	**30** (ex-*FS* 400)	**32** (ex-*FS* 548)

Notes
Same type as "Camano" class; but unarmed. All but three (17, 29, 31), 'aid up in Reserve Fleets. T-AKL 35 was transferred to the Korean Navy in 1956. Five are operated by MSTS.

Recent Disposals
T-AKL 33 was stricken from the list on 26 Apr. 1958, and T-AKL 24 and 34 in 1959. T-AKL 15, 16, 18, 19, 21, 23, 26, 27 and 36 were stricken on 1 May 1959, 1 Nov. 1959 and in 1960.

COASTAL TRANSPORTS

1 T-APC Type

1 *Type C1-M-AV1*
T-APC
116 SERGEANT JONAH E. KELLEY (ex-*Link Splice*)

Displacement: 2,460 tons *light* (7,460 tons *full load*)
Dimensions: 338¾ × 50 × 21 feet
Machinery: Diesel. B.H.P.: 1,750 = 11·5 kts.

Notes
Military Sea Transportation Service coastal transports. Only T-APC 116 is in service.

Recent Disposals
Of this type, *Sergeant George D. Keathley*, T-APC 117, (ex-*Acorn Knot*, ex-*Alexander R. Nimminger, Sr.*), *Sergeant Joseph E. Muller*, T-APC 118, (ex-*Check Knot*), and *Private Jose F. Valdez*, T-APC 119 (ex-*Round Splice*,, ex-*Joe P. Martinez*) were transferred to the Maritime Administration in 1959.

DISTILLING SHIPS

2 "Pasig" Class

ABATAN (ex-*Mission San Lorenzo*, 15 July 1944)
PASIG (ex-*Mission San Xavier*, 16 Aug. 1944)

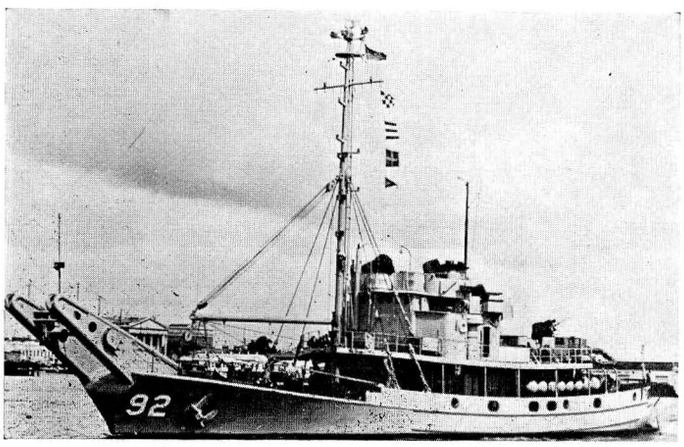
Displacement: 5,730 tons *light* (22,390 tons *full load*)
Dimensions: 504 (*pp.*), 523½ (*o.a.*) × 68 × 30⅝ (*max.*) feet
Guns: 1—5 inch, 4—3 inch, 8—40 mm. AA.
Machinery: Turbo-electric. S.H.P.: 10,000 = 16·2 kts.
Boilers: 2 Babcock & Wilcox
Capacity: 20,211 tons

Notes
Launch dates above. Nos. AW 4 (ex-AO 92) and AW 3 (ex-AO 91), respectively. Maritime Commission T2-S E-A2 design. Fitted with a derrick for the hoisting of LCUs and landing craft to be loaded on the deck. "A" frame is of 160 tons capacity. *Pasig* was transferred to the Maritime Administration in 1960.

Photograph Notes
A photograph of *Pasig* appears in the 1949-50 to 1957-58 editions and of *Abatan* in the 1949-50 to 1953-54 editions.

Recent Disposal
The ex-German fleet replenishment ship *Conecuh* (ex-*Dithmarchen*) was stricken in 1960.

NETLAYERS (Boom Defence Vessels) (AN)



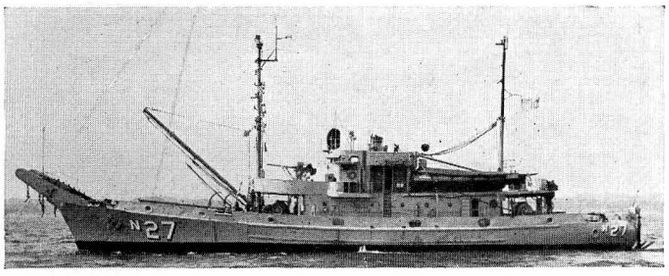
YAZOO — 1959, *U.S. Navy, Official*

14 "Cohoes" Class

COHOES (29 Nov. 1944)
ETLAH (16 Dec. 1944)
MANAYUNK (30 Mar 1945)
MARIETTA (27 Apr. 1945)
NAHANT (June 1945)
NAUBUC (5 Apr. 1944)
ONEOTA (27 May 1944)
PASSACONAWAY (30 June 1944)
PASSAIC (29 June 1944)
SHAKAMAXON (9 Sep. 1944)
SUNCOCK (16 Feb. 1945)
TUNXIS (18 Aug. 1944)
WAXSAW (15 Sep. 1944)
YAZOO (18 Oct. 1944)

Displacement:	650 tons *standard* (785 tons *full load*)
Dimensions:	168½ × 33⅜ × 10¾ feet
Guns:	1—3 inch
Machinery:	Busch-Sulzer diesel-electric. S.H.P.: 1,500=12 kts.
Complement:	46

Notes
AN 78-88, 90-92. Built by Commercial Iron Works (78-83); Marine & S.B. Co. (84-86); Leatham D. Smith S.B. Co. (87-88); and Zenith Dredge Co. (90-92). A photograph of *Waxsaw* appears in the 1949-50 to 1957-58 editions. *Tonawanda*, AN 89, was stricken in 1960.



MULBERRY — 1955, *U.S. Navy, Official*

25 "Tree" Class

4 *American S.B. Co., Cleveland*
LOCUST (1 Feb. 1941)
MANGO (22 Feb. 1941)
MIMOSA (15 Mar. 1941)
MULBERRY (26 Mar. 1941
(AN 22, 24, 26, 27)

6 *American S.B. Co., Lorain*
HAZEL (ex-*Poplar*, 14 Feb. 1941)
NUTMEG (ex-*Sycamore*, 13 Mar. 1941)
PALM (8 Feb. 1941)
REDWOOD (22 Feb. 1942)
SANDALWOOD (16 Mar. 1941)
ROSEWOOD (1 Apr. 1941)
(AN 29, 33, 28, 30, 31, 32)

4 *Commercial Iron Works*
BUCKEYE (ex-*Cottonwood*, 26 July 1941)
CATALPA (22 Feb. 1941)
CHESTNUT (15 Mar. 1941)
CINCHONA (2 July, 1941)
(AN 13, 10-12)

3 *General Engrg. & D.D. Co.*
BUCKTHORN (ex-*Dogwood*,27 Mar. 1941)
EBONY (3 June 1941)
EUCALYPTUS (3 July 1941)
(AN 14-16)

2 *John H. Mathis Co.*
TEABERRY (24 May 1941)
TEAK (7 July 1941)
(AN 34, 35)

4 *Lake Washington Shipyards*
ALOE (11 Jan. 1941)
ASH (15 Feb. 1941)
BOXWOOD (ex-*Birch*, 8 Mar. 1941
BUTTERNUT (10 May 1941)
(AN 6-9)

2 *Marietta Mfg. Co.*
ELDER (ex-*Juniper*, 19 June 1941)
HOLLY (17 Apr. 1941)
(AN 20, 19)

Displacement:	560 tons *standard* (805 tons *full load*)
Dimensions:	146 (*w.l.*), 163 (*o.a.*) × 30½ × 10½ (*mean*), 11¾ (*max.*) feet
Guns:	1—3 inch AA., some M.G.
Machinery:	Diesel-electric. B.H.P.: 800=13 kts.
Complement:	48

Notes
Former YN 1-30. Steel hulls. Three of this class were transferred to the French Navy in 1944, and one to Turkey in 1947.

FAST COMBAT SUPPORT SHIPS (AOE)

2 Underway Replenishment Type

AOE 1 — **AOE 2**

Displacement:	19,200 tons *light* (51,000 tons *full load*)
Dimension:	708 × 108 × 35 feet
Guns:	8—3 inch, 50 cal., rapid fire in twin mounts
Aircraft:	2 cargo helicopters aft.

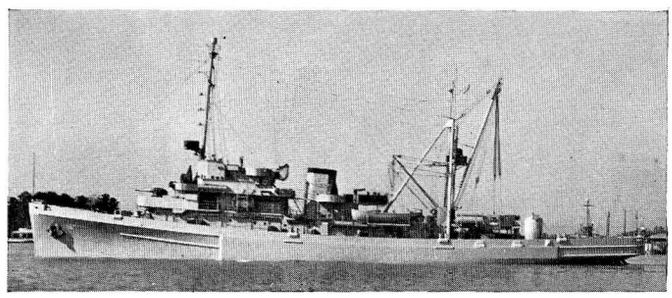
Notes
A new class of Fast Combat Support Ships (AOE) to supply task forces of the future is being planned. They are to combine the present functions of the ammunition ships, cargo ships and fleet oilers. To be built under the Fiscal Year 1961 program. To carry one fifth more fuel than the latest fleet oilers (black oil, diesel oil and aviation spirit), and one quarter the capacity of the latest ammunition ship, including guided missiles, as well as 250 tons of dry cargo and 250 tons of frozen food. To cost $66,000,000 each.

MOTOR MINE PLANTER (YMP)

YMP 1 (ex-*JMP* 70)

Notes
Ex-Army Junior Mine Planter. Sister ship YMP 2 (ex-*Sergeant Truman O. Olson*) was stricken on 1 Feb. 1960. (*YMP* 3, a new construction ship, was transferred to Turkey in 1958 under the Mutual Defense Assistance Program.)

SUBMARINE RESCUE VESSELS (ASR)



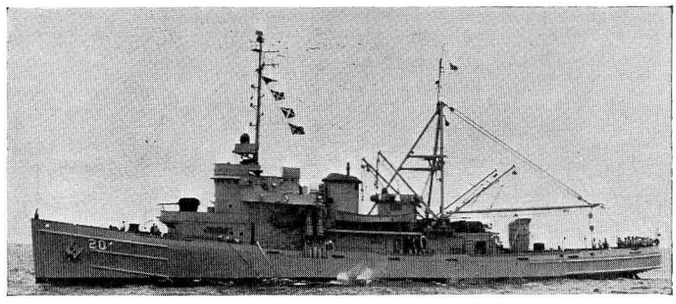
TRINGA — 1957, *U.S. Navy, Official*

8 "Chanticleer" Class

CHANTICLEER (29 May 1942)
COUCAL (29 May 1942)
FLORIKAN (14 June 1942)
GREENLET (12 July 1942)
KITTIWAKE (10 July 1945)
PETREL (26 Sep. 1945)
SUNBIRD (3 Apr. 1945)
TRINGA (25 June 1945)

Displacement:	1,653 tons *standard* (2,141 tons *full load*)
Dimensions:	251½ × 42 × 14⅝ feet
Guns:	Removed.
Machinery:	First four: American Locomotive Co. diesels. Last four General Motors diesels. Diesel-electric. B.H.P.: 3,000=14·9 kts.
Complement:	85

Notes
ASR 7-10, respectively, built by Moore D.D. Co.; 13-16, respectively, built by Savannah Machine & Foundry Co. Launch dates above. Large tug type. All above vessels are equipped with powerful pumps, heavy air compressors and special submarine rescue chambers. Guns removed 1957-58.



SKYLARK — 1955, *U.S. Navy, Official*

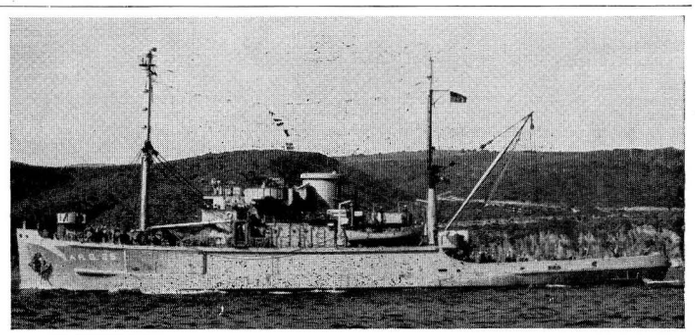
2 "Penguin" Class

PENGUIN (ex-*Chetco*, 20 July 1943) — **SKYLARK** (ex-*Yustaga*, 1946)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*) × 38½ × 12 (*mean*), 15½ (*max* feet
Guns:	1—3 inch, 2—40 mm. AA. (may be removed)
Machinery:	Diesel-electric. B.H.P.: 3,000=16·5 kts.
Complement:	85

Notes
Former fleet type tugs, adapted for present service in 1947. Built by Charleston S.B. & D.D. Co. ASR 12, 20. *Bluebird*, ASR 19, transferred to Turkey, May 1950. The fleet tugs *Luiseno* and *Papago* (see later page) are also fitted out as submarine rescue vessels.

SALVAGE VESSELS (ARS)



SAFEGUARD — *Added* 1958, *Ted Stone*

14 "Escape" Class

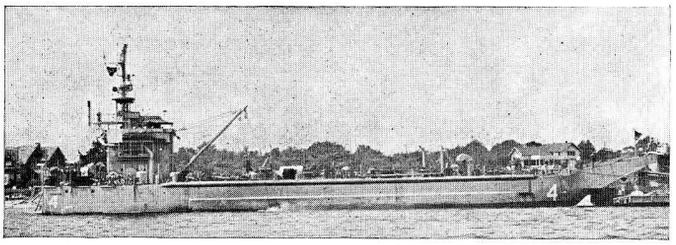
BOLSTER (23 Dec. 1944)
CLAMP (ex-*Arlantic Salvor*, 24 Oct. 1942)
CONSERVER (27 Jan. 1945)
CURRENT (25 Sep. 1943)
DELIVER (25 Sep. 1943)
ESCAPE (22 Nov. 1942)
GRAPPLE (31 Dec. 1942)
GRASP (31 July 1943)
HOIST (31 Mar. 1945)
OPPORTUNE (31 Mar. 1945)
PRESERVER (1 Apr. 1943)
RECLAIMER (25 June 1945)
RECOVERY (4 Aug. 1945)
SAFEGUARD (20 Nov. 1943)

Displacement:	1,530 tons *standard* (1,897 tons (ARS 6-34), 1,900 tons (ARS 38-43) *full load*)
Dimensions:	207 (*w.l.*), 213⅜ (*o.a.*) × 39 or 43 × 13 feet
Guns:	4—40 mm. AA.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,000=14 kts.
Complement:	85

General Notes
ARS 38, 33, 39, 22, 23, 6, 7, 24, 40, 41, 8, 42, 43 and 25, rsepectively. Built by Basalt Rock Co. *Cable*, ARS 19, *Curb*, ARS 21 and *Gear*, ARS 34, are on loan to a private operator. A photograph of *Bolster* appears in the 1946-47 to 1957-58 editions.

Oceanographical Notes
Chain and *Snatch* were converted into Oceanographic Research Ships in 1958-59, and designated USNS, ARS. *Chain*, ARS 20, was assigned to the Woods Hole Oceanographic Institute by the Office of Naval Research. She was converted by the Savannah Machine & Foundry. *Snatch*, ARS 27, was assigned to the Scripps Institute of Oceanography by the ONR. Complement of 40 plus 28 scientists. Four laboratories, and winches for specialised work. She was converted by Puget Sound Bridge and Drydock Co. at a cost of $500,000 and completed in June 1960. being renamed *Argo*.

SALVAGE LIFTING VESSELS (ARSD)



WINDLASS — *Added 1957, Ted Stone*

GYPSY (ex-*LSM* 549)
MENDER (ex-*LSM* 550)
SALVAGER (ex-*LSM* 551)
WINDLASS (ex-*LSM* 552)

Displacement:	740 tons *standard* (1,095 tons *full load*)
Dimensions:	224½ × 34 × 7 feet
Machinery:	Diesel. 2 shafts. B.H.P.: 2,800=13 kts.

Notes
ARSD 1-4. Used as diving tenders. All launched 7 Dec 1945. *Gypsy* and *Mender*, out of commission, in reserve.

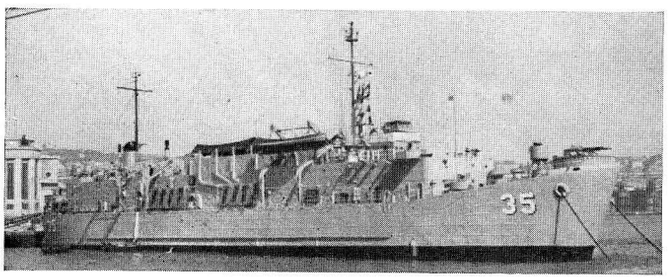
SALVAGE TENDERS (ARST)

LAYSAN ISLAND (ex-*LST* 1098)
PALMYRA (ex-*LST* 1100)

Displacement:	1,653 tons *standard* (4,080 tons *full load*)
Dimensions:	328 × 50 × 11 feet (14½ feet (*max.*))
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=11 kts.

Notes
ARST 1 and 3, respectively. Former Tank Landing Ships. Out of commission, in reserve. A photograph of *Palmyra* appears in the 1949-50 to 1957-58 editions.

DEPOT SHIPS (APB)



BENEWAH — *1956, Lieut. Aldo Fraccaroli*

8 "Ex-LST" Type

APB
36 COLLETON (ex-*APL* 36)
46 DORCHESTER (ex-*AKS* 17, ex-*ST* 1112)
37 ECHOLS (ex-*APL* 37)
47 KINGMAN (ex-*AKS* 18, ex-*LST* 1113)

APB
38 MARLBORO (ex-*APL* 38)
39 MERCER (ex-*APL* 39)
40 NUECES (ex-*APL* 40)
48 VANDERBURGH (ex-*AKS* 19, ex-*LST* 1114)

Displacement:	2,189 tons (*light*), 4,080 tons *full load*
Dimensions:	316 (*w.l.*), 328 (*o.a.*) × 50 (*extreme*) × 11 feet
Guns:	40 mm. (No of guns varies)
Machinery:	General Motors Diesels. 2 shafts. B.H.P.: 1,600 to 1,800= 12 kts. (*APB* 41-50). 10 kts. (*APB* 35-40)

General Notes
Officially rated as Barrack ships, self-propelled (APB). All ex-*LST* type ships of the same basic characteristics.

Recent Disposals
Sister ships *Accomac*, APB 49, *Cameron*, APB 50, *Presque Isle*, APB 44, *Wythe*, APB 41, *Yavapai*, APB 42, and *Yolo*, APB 43, were stricken from the Navy List in 1959, and *Benewah*, APB 35 (ex-APL 35), and *Blackford*, APB 45 (ex-AKS 16, ex-LST 1111) in 1960.
The depot ship *Dupage*, APB 51 (ex-S.S. *John W. Weeks*), converted "Liberty" type merchant vessel, was stricken on 1 June 1959.

AUXILIARIES (AG)

T-AG 161 RANGE RECOVERER (ex-*FS*-278)
Notes
Acquired from the Army in 1960. Instrumentation and telemetry ship for Pacific missile range, replacing *King County*. MSTS Civil Service crew.

AG 159 (ex-*Samuel R. Aitken*, MCE 3127)
Notes
Being converted at the New York Naval Shipyard under the Fiscal Year 1960 program.

SEQUOIA, AG 23

Displacement:	110 tons *light*
Dimensions:	105 × 21 × 5
Machinery:	1 diesel. B.H.P.: 400

Notes
Yacht. Built in 1925 by J. H. Mathis Co. Used as the flagship of the Secretary of the Navy. There are four other Navy yachts:—**FREEDOM** (*IX* 43), **HIGHLAND LIGHT** (*IX* 38), **SALUDA** (*IX* 87), **ROYONO** (*IX* 235)

4 Experimental Minefield Sweeper Type

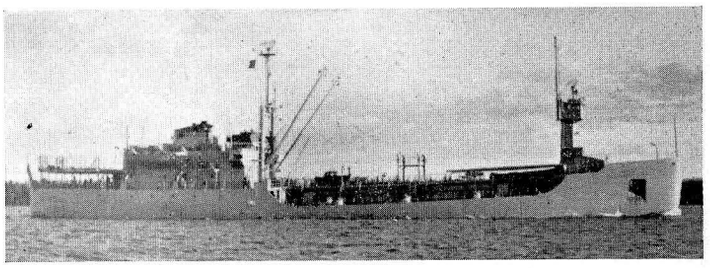
YAG
36 (ex-**FLOYD W. SPENCER**)
38 (ex-**EDWARD KAVANAGH**)

YAG
39 (ex-**S.S. GEORGE EASTMAN**)
40 (ex-**S.S. GRANVILLE S. HALL**) (ex-*Ira Nelson Morris*)

Dimensions:	422⅔ (*o.a.*) × 57 × 34⅔ (*max.*) feet
Machinery:	Steam reciprocating. H.P.: 2,500=11 kts. (See *Notes*)

Notes
Liberty ships, EC 2-S-C1 type built 1943-44, acquired by Navy in 1952-53 as Experimental Minefield Sweepers. Several have been used as guinea-pig ships in sweeping minefields. Remote engine room controls on bridge. In reserve. No Navy names assigned. Also used as store ships.
Recent Disposals
The experimental minefield sweeper YAG 37 (ex-*John L. Sullivan*) was scrapped in 1958.
The fleet X-ray examination ship *Whidbey*, AG 141, was stricken on 1 May 1959.

PETROL CARRIERS (AOG)



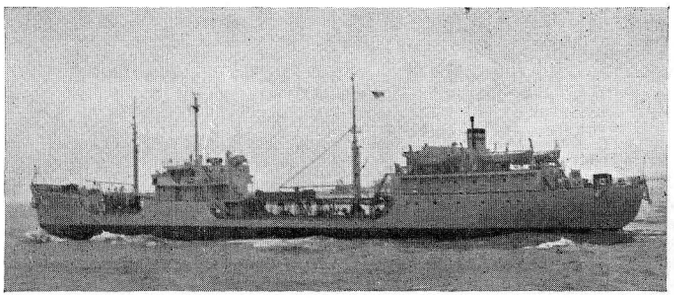
CHATTAHOOCHEE — *1960, courtesy Mr. W. H. Davis*

2 "Alatna" Class

T-AOG 81 ALATNA (6 Sep. 1956) **T-AOG 82 CHATTAHOOCHEE** (4 Dec. 1956)

Displacement:	5,720 tons
Measurement:	3,200 tons *gross*, 3,445 tons *deadweight*
Capacity:	2,730 tons liquid cargo=30,000 barrels
Dimensions:	285½ (*pp.*), 302 (*o.a.*) × 61 × 19 feet
Machinery:	Diesel-electric. 2 shafts. H.P.: 3,400=12 kts.

Notes
TI-MET-24a type. Built for MSTS by Bethlehem Steel, Staten Island, N.Y. Laid down on 16 Mar. 1956 and 1 May 1956, respectively. Delivered in June and August 1957. Both have bows strengthened for navigation in ice, and are equipped with a helicopter flight deck.



TONTI — *1957, W. H. Davis*

4 "Peconic" Class

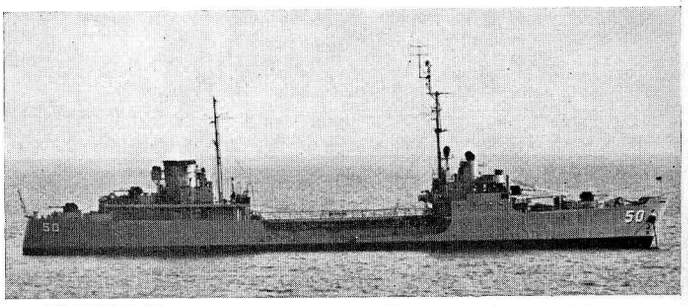
AOG
79 PETALUMA (ex-*Raccoon Bend*) USNS
80 PISCATAQUA (ex-*Cisne*)

AOG
77 RINCON USNS
76 TONTI USNS

Displacement:	2,060 tons *light* (6,000 tons *full load*)
Dimensions:	325 (*o.a.*) × 48 × 19 (*max*) feet
Machinery:	Diesel. 1 shaft. B.H.P.: 1,400=10 kts.
Capacity:	30,000 barrels
Merchant crew:	33

Notes
TI-M-BT2 design. Assigned to MSTS and are non-commissioned naval vessels, USNS, unarmed. All built by Todd, Houston.

Recent Disposals
Nodaway, AOG 78 (ex-*Belridge*) and *Peconic*, AOG 68, of this class were transferred to the Maritime Administration in 1960.



CHEWAUCAN — *1958, courtesy Captain Aldo Fraccaroli*

13 "Patapsco" Class

AOG
49 CHESTATEE(USAF)
50 CHEWAUCAN (22 July 1944)
7 ELKHORN (15 May 1943)
8 **GENESEE** (23 Sep. 1943)
52 MATTABESSET (11 Nov. 1944)
53 NAMAKAGON (4 Nov. 1944)

AOG
55 NESPELEN (10 Apr. 1945)
56 NOXUBEE (3 Apr. 1945
57 PECATONICA
58 PINNEBOG (USAF)
3 RIO GRANDE (23 Sep. 1942)
11 TOMBIGBEE (18 Nov. 1943)
59 WACISSA (USAF)

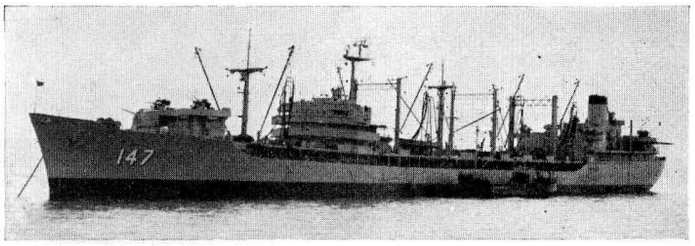
Displacement:	1,850 tons *light* (4,335 tons *full load*)
Dimensions:	292 (*w.l.*), 310¾ (*o.a.*) × 48½ × 15⅔ (*max.*) feet
Guns:	4—3 inch d.p., 50 cal.
Machinery:	Diesel-electric. 2 shafts. B.H.P.: 3,300=14 kts.
Complement:	124

Notes
Launch dates above. Navy designed. 16 built at Savage, Minnesota; 3 at Tacoma. Seven of these ships are assigned to Military Sea Transportation Service designated USNS, and are unarmed. AOG 49, 51, 58, 59, ex-USNS, were in reserve, but were taken out of reserve and placed in service with civil service crews under MSTS in 1956.

Recent Disposals
Maquoketa, T-AOG 51, has been stricken. *Kern*, AOG 2, *Wabash*, AOG 4, and *Maquoketa* AOG 51, were transferred to Maritime Administration in 1958. *Ontonagon*, AOG 36 was stricken from the Navy List and returned to Maritime Administration on 13 Nov. 1957.

Transfer Notes
Natchaug, AOG 54 was transferred to Greece under the MDAP on 1 Aug. 1959. *Agawam*, AOG 6, *Kishwaukee*, AOG 9, *Nemasket*, AOG 10, *Patapsco*, AOG 1, and *Susquehanna*, AOG 5, were transferred to the Maritime Administration in 1959-60. *Chestatee*, *Pinnebog* and *Wacissa* are on loan to the U.S. Air Force.

OILERS (AO)



TRUCKEE 1960, *courtesy E. Woods, Esq.*

T-AO 165 AMERICAN EXPLORER

Measurement:	16,500 tons *gross*, 22,525 tons *deadweight*
Dimensions:	615 (*o.a.*) × 80 × 44½ feet
Machinery:	Steam turbines. S.H.P.: 22,000=20 kts.

Notes

T5-S-RM2a type. Laid down on 9 July 1957. Launched on 11 Apr. 1958. Built by Ingalls Shipbuilding Corporation, Pascagoula, for the Maritime Administration, but acquired by MSTS. Rated as U.S. Naval Ship with civil service crew.

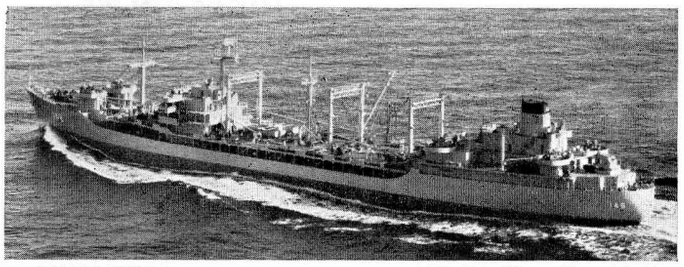
4 "Maumee" Class

T-AO 149 MAUMEE (16 Feb. 1956)
T-AO 150 POTOMAC (8 Oct. 1956)
T-AO 151 SHOSHONE (17 Jan. 1957)
T-AO 152 YUKON (16 Mar. 1956)

Displacement:	7,950 tons *light*
Measurement:	16,500 tons *gross*, 25,000 tons *deadweight*
Dimensions:	591 (*w.l.*). 620 (*o.a.*) × 83½ × 32 feet
Machinery:	Turbine. S.H.P.: 20,460=18 kts.
Cargo oil capacity:	190,300 barrels
Fuel oil:	2,479 tons

Notes

Built for MSTS under 1955 Fiscal year building program. *Yukon*, laid down 16 May 1955, by Ingalls, Pascagoula, Miss.; *Maumee* laid down 8 Mar. 1955, *Potomac* laid down 8 June 1955, *Shoshone* laid down 15 Aug. 1955, by Sun Shipbuilding, Chester. T5-S-12A type. *Maumee* delivered Dec. 1956, *Potomac* Jan. 1957, *Shoshore* Apr. 1957, *Yukon* May 1957.



PONCHATOULA 1959, *United States Navy, Official*

6 Large Type

AO
143 NEOSHO (10 Nov. 1953)
144 MISSISSINEWA (12 June 1954)
145 HASSAYAMPA (12 Sep. 1954)
AO
146 KAWISHIWI (11 Dec. 1954)
147 TRUCKEE (10 Mar. 1955)
148 PONCHATOULA (9 July 1955)

Displacement:	11,600 tons *light* (38,000 to 40,000 tons *full load*)
Dimensions:	640 (*w.l.*), 655 (*o.a.*) × 86 × 35 (*max.*) feet
Guns:	12—3 inch, 50 cal. (in six twin mounts)
Machinery:	G. E. turbines. 2 shafts. S.H.P.: 28,000=20 kts.
Complement:	300 (fitted to carry squadron staffs of 12 officers)

General Notes

Giant oilers. First, AO 143, awarded to Bethlehem Steel Company, Quincy, Mass. AO 144-148 awarded later to New York Shipbuilding Corporation, Camden, New Jersey, with the Bethlehem company's design as prototype. *Mississinewa* commissioned 18 Jan. 1955. Launch dates above. *Truckee* laid down 21 Dec. 1953, *Ponchatoula* 1 Mar. 1954. Largest Navy oil tankers built. The 2—5 inch, 38 cal. guns were removed in 1960 and a helicopter platform is now located in place of the after 5 inch gun.

Photograph Notes

A photograph of *Neosho* appears in the 1955-56 to 1959-60 editions.



WACCAMAW 1957, *U.S. Navy, Official*

5 "T3-S2-A3" Type

MISPILLION (10 Aug. 1945)
NAVASOTA (30 Aug. 1945)
PASSUMPSIC (31 Oct. 1945)
PAWCATUCK (19 Feb. 1945)
WACCAMAW (30 Mar. 1946)

Displacement:	7,423 tons *light* (25,440 tons *full load*)
Dimensions:	553 (*o.a.*) × 75 × 32½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—3 inch, 50 cal., 12—40 mm. AA.
Machinery:	Turbines. 2 shafts. S.H.P.: 13,500=18·3 kts.

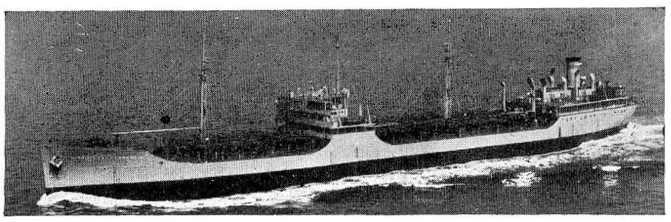
General Notes

AO 105, 106, 107, 108, 109, respectively. Cargo: 142,500 barrels of oil. *Waccamaw* of this class was to have been converted to fleet tanker replenishment (AOR), but this project has been abandoned.

Photograph Notes

A port broadside view of *Waccamaw* appears in the 1953-54 to 1956-57 editions.

Fleet Oilers—*continued*



MISSION SAN FERNANDO 1953, *Skyfotos*

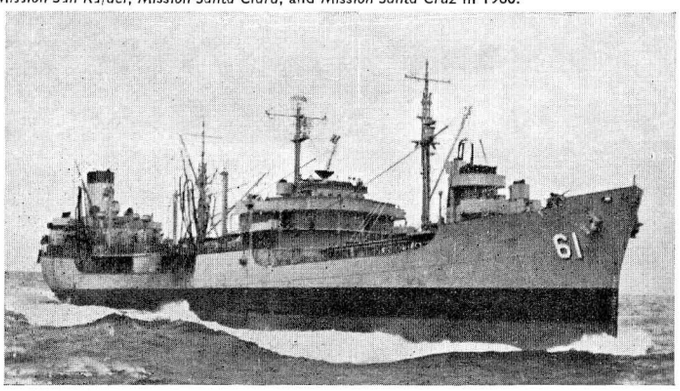
13 "T2-SE" Types

CACHE (ex-*Stillwater*, 1942)
CHEPACHET (1943)
COSSATOT (1942)
COWANESQUE (1942)
MILLICOMA (ex-*Conastega*, 21 Jan. 1943)
MISSION CAPISTRANO
MISSION SANTA YNEZ
PECOS (ex-*Corsicana*, 1942)
SAUGATUCK (ex-*Newton*, 1942)
SCHUYLKILL (ex-*Louisburg*, 16 Feb. 1943)
SUAMICO (ex-*Harlem Heights*, 1941)
TALLULAH (ex-*Valley Forge*, 1944)
TOMAHAWK (10 Aug. 1943)

Displacement:	5,730 tons *light* (22,380 tons *full load*)
Dimensions:	503 (*w.l.*), 523½ (*o.a.*) × 68 × 30⅜ (*max.*) feet
Machinery:	A 1 type: Turbo-electric. S.H.P.: 6,000=15·1 kts. A 2 type: S.H.P.: 10,000=16·2 kts.
Boilers:	2 Babcock & Wilcox

Notes

T2-S E-A1 and T2-S E.A2 design. All above oilers are assigned to Military Sea Transportation Service and carry the prefix U.S.N.S. (U.S. Naval Ship). These ships are civilian manned, Navy-owned tankers, operated by commercial shipping firms under contract to the Navy. Oil capacity: 20,200 tons. Several are equipped with an aluminium portable aircraft cargo deck. *Saranac* reclassified YFP 9, Floating Power Barge, in Aug. 1954. Many were stricken from Navy List and returned to Maritime Administration reserve fleets in 1957-58, *Abiqua*, *Anacostia*, *Cahaba*, *Caney*, *Cumberland*, *Kennebaga*, *Mascoma*, *Muir Woods*, *Ocklawaha*, *Pamanset*, *Paolie*, *Parkersburg*, *Roanoke* and *Tamalpais* un 1959, and *Pioneer Valley*, *Sappa Creek* and *Soulbarissen* in 1960. *Mission San Francisco*, AO 123, stricken from list as a result of the collision in Delaware River in Mar. 1957. *Mission San Miguel* abandoned after grounding on Maro Reef, Hawii on 8 Oct. 1957. *Mission Solano*, T-AO 135, transferred from the Navy to Maritime Administration's Olympia, Washington, Reserve Fleet on 15 Aug. 1957. Others were returned to the Maritime Administration, including *Mission de Pala*, *Mission Loreto*, *Mission Los Angeles*, *Mission San Carlos*, *Mission San Juan*, *Mission San Luis Obispo*, *Mission Santa Ana* and *Mission Santa Barbara* in 1959, and *Mission Buenaventuna*, *Mission San Antonio*, *Mission San Rafael*, *Mission Santa Clara*, and *Mission Santa Cruz* in 1960.



SEVERN 1958, *Giorgio Arra*

20 "T3-S2-A1" Type

ALLAGASH (14 Apr. 1945)
ASHTABULA (22 May 1943)
AUCILLA (20 Nov. 1943)
CACAPON (6 June 1943)
CALIENTE (26 Aug. 1943)
CALOOSAHATCHEE (2 June 1945)
CANISTEO (6 July 1945)
CHEMUNG (ex-*Esso Annapolis*, 9 Sep. 1939)
CHUKAWAN (28 Aug. 1945
CIMARRON (7 Jan 1939)
ELOKOMIN (19 Oct. 1943)
GUADALUPE (ex-*Esso Raleigh*, 26 Jan. 1940)
MANATEE (19 Feb. 1944)
MARIAS (21 Dec. 1943)
NANTAHALA (1943)
PLATTE (8 July 1939)
SALAMONIE (ex-*Esso Columbia*, 18 Sep. 1940)
SEVERN (31 May 1944)
TALUGA (10 July 1944)
TOLOVANA (6 Jan. 1945

Displacement:	7,256 tons *light* (25,425 tons *full load*)
Dimensions:	525 (*w.l.*), 553 (*o.a.*) × 75 × 31½ feet
Guns:	1—5 inch, 4—3 inch (*Chemung*, *Guadalupe*, *Kaskaskia*, *Sabine*, *Cimarron*, *Platte*, *Salamonie*, 3—5 inch, *Cacapon*, 4 single 3 inch, 50 cal.)
Machinery:	Geared turbines. 2 shafts. S.H.P.: 13,520=18·8 kts.
Boilers:	4 Foster-Wheeler (except *Cimarron*, 4 Babcock & Wilcox)
Radius:	Reported to be 18,000 miles
Cargo capacity:	Exceeds 6,000,000 gallons
Complement:	64

Notes

AO 22, 24, 25, 30, 32, 51, 53, 55-58, 60, 61, 62, 64, 97-100. War losses: *Mississinewa*, *Neosho*. Photograph of *Salamonie* in 1957-58 edition. *Chikaskia*, AO 54, *Chipola*, AO 63, *Kaskaskia*, AO 27, and *Sabine*, AO 25, of this class, were stricken from the Navy List in 1959, but *Chikaskia* and *Chipola* are to be recommissioned in 1960.



MATTAPONI 1957, *R. M. Scott*

2 "T3-S-A1" Type

Notes

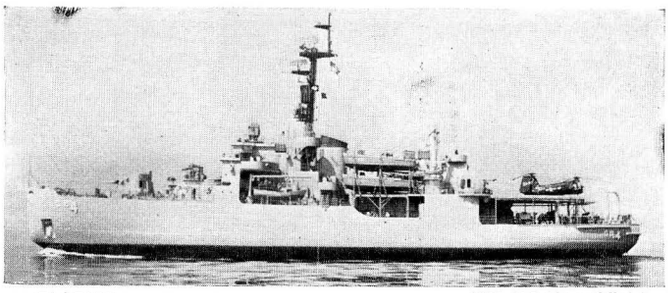
Both of the oilers of the "T3-S-A1" type, namely *Enoree*, AO 69, and *Nionrara*, AO 72, are in Maritime Administration custody but remain on the Navy List.

7 "T2-A" Type

Notes

All seven oilers of the "T2-A" type, namely *Kankakee*, AO 39, *Kennebec*, AO 36, *Mattaponi*, O 41, *Merrimack*, AO 37, *Monogahela*, AO 42, *Neches*, AO 47, and *Tappahannock*, AO 43, in Maritime Administration reserve fleet custody but remain on the Navy List.

ICEBREAKERS (AGB)



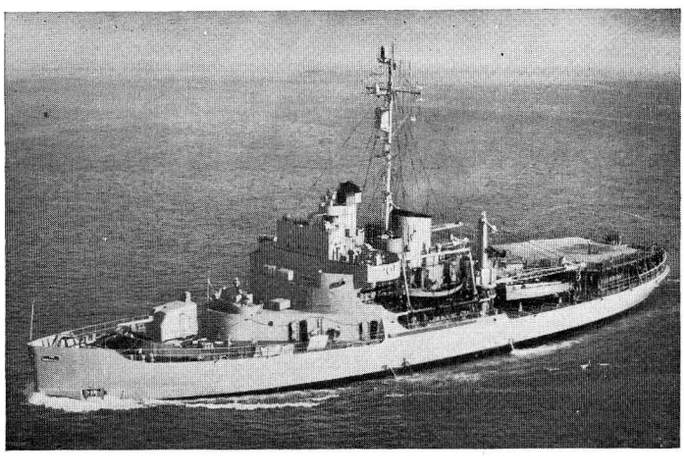
GLACIER — 1955, *U.S. Navy, Official*

AGB 4 GLACIER

Displacement:	5,100 tons *light* (8,775 tons *full load*)
Dimensions:	310×74×29 feet
Aircraft:	2 Helicopters
Guns:	2—5 inch, 38 cal. twin mount; 6—3 inch, 50 cal in enclosed twin mounts; 6—20 mm. AA.
Machinery:	10 Fairbanks Morse diesels and 2 Westinghouse 10,500 H.P. electric motors. 2 shafts. S.H.P.: 16,900=16 kts. (12 kts. cruising)
Complement:	339 (19 officers, 320 men)

Notes

Designed and built by Ingall's Shipbuilding Corporation, Pascagoula, Mississippi. Laid down on 3 Aug. 1953, launched on 27 Aug. 1954 and commissioned on 27 May 1955. Ample stowage for fuel and provisions. Designed for breaking ice more than 20 feet thick, and her bow is heavily armoured for driving the ship on top of the ice field and crushing it by sheer weight. Helicopters are carried to spot the best course through the ice. Largest and highest powered American icebreaker yet built. Has largest capacity single-armature D.C. motors ever built and installed in a ship. Carries an LCVP in addition to five boats and rafts for entire ship's company. Thick double hull.



BURTON ISLAND — *Added* 1958, *Ted Stone*

4 "Wind" Class

ATKA (ex-*Southwind*)
BURTON ISLAND
EDISTO
STATEN ISLAND (ex-*Northwind*)

Displacement:	3,500 tons *light* (6,500 tons *full load*)
Dimensions:	250 (*pp.*), 269 (*o.a.*)×63½×25¾ (*mean*), 29 *max.*) feet
Guns:	1—5 inch, 38 cal., 4—40 mm. AA.
Machinery:	Diesel, with electric drive. 2 shafts. S.H.P.: 13,300=16 kts.
Complement:	234

Notes

All built by the Western Pipe & Steel Co., San Pedro, California. Entirely welded construction, with double hull. Forward shaft removed, armament reduced. Equipment includes helicopter aft. A photograph of *Edisto* appears in the 1956-57 and 1957-58 editions.

No.	*Ex-No.*	*Name*	*Launched*	*Completed*
AGB 3	WAGB 280	*Atka*	8 Mar. 1943	15 July 1944
AGB 1	AG 88	*Burton Island*	30 Apr. 1946	28 Dec. 1946
AGB 2	AG 89	*Edisto*	29 May 1946	20 Mar. 1947
AGB 5	WAGB 278	*Staten Island*	28 Dec. 1942	15 Feb. 1944

AUXILIARY OCEAN TUGS (ATA)

36+1 "Maricopa" Class

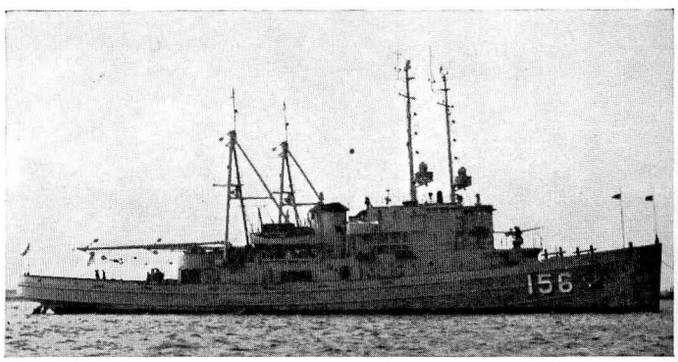
ACCOKEEK (ATA 181)
ALGORMA (ATA 212)
ALLEGHENY (ATA 179)
CAHOKIA (ATA 186)
CATAWBA (ATA 210)
CHALLENGE (ATA 201)
GERONIMO (ATA 207)
IUKA (ATA 123)
KALMIA (ATA 184)
KEOSANQUA (ATA 198)
KEYWADIN (ATA 123)
KOKA (ATA 185)
MAHOPAC (ATA 196)
NAVAJO (ATA 211)
NAVIGATOR (ATA 203)
NOTTOWAY (ATA 183)
PENOBSCOT (ATA 188)
PINOLA (ATA 206)
REINDEER (ATA 189)
SAGAMORE (ATA 208)
SALISH (ATA 187)
SAMOSET (ATA 190)
SCIOTA (ATA 205)
SONOMA (ATA 175)
SOTOYOMA (ATA 121)
STALLION (ATA 193)
SUNNADIN (ATA 197)
TATNUCK (ATA 195)
TILLAMOOK (ATA 192)
TONKAWA (ATA 176)
TUNICA (ATA 178)
TUSCARORA (ATA 245) ex-YTB 341
UMPQUA (ATA 209)
UNADILLA (ATA 182)
UNDAUNTED (ATA 199)
WANDANK (ATA 204)
WATEREE (ATA 174)

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	134½ (*w.l.*), 143 (*o.a.*)×33⅜×13 feet
Guns:	1—3 inch dual purpose
Machinery:	2 diesel-electric. B.H.P.: 1,500=13 kts.

Notes

Ex-ATRs (Ocean Rescue Tugs) which were reclassified. All launched in 1943-45. Many are in reserve. *Bagaduce* was transferred to the Maritime Administration in 1958 and then to the U.S. Coast Guard in 1959. *Wampanoag* was transferred to the Coast Guard in 1959. *Tuscarora*, ATA 245, was reclassified from YTB in 1959.

FLEET OCEAN TUGS (ATF)



LUISENO, *Papago* in rear (earlier funnel type) 1958, *courtesy Godfrey H. Walker, Esq.*

53+1 "Apache" Class

ABNAKI (22 Apr. 1943)
ACHOMAWI (10 Sep. 1944)
ALSEA (22 May 1943)
APACHE (8 May 1942)
ARAPAHO (ex-*Catawba*, 22 June 1942
ARIKARA (22 June 1943)
ATAKAPA (11 July, 1944)
BANNOCK (17 Jan. 1943)
CAHUILLA (2 Nov. 1944)
CARIB (7 Feb. 1943)
CHAWASHA (15 Sep. 1944)
CHICKASAW (23 July 1942)
CHIMARIKO (30 Dec. 1944)
CHIPPEWA (25 July 1942)
CHOCTAW (18 Oct. 1942)
CHOWANOC (20 Aug. 1943)
COCOPA (5 Oct. 1943)
CREE (17 Aug. 1942)
CUSABO (26 Feb. 1945)
HIDATSA (29 Dec. 1943)
HITCHITI (29 Jan. 1944)
HOPI (7 Sep. 1942)
JICARILLA (25 Feb. 1944)
KIOWA (5 Nov. 1942)
LIPAN (17 Sep. 1942)
LUISENO (17 Mar 1945)
METACO (14 Oct. 1942)
MOCTOBI (25 Mar. 1944)
MOLALA (23 Dec. 1942)
MORENO (9 July 1942)
MOSOSPELEA (7 Mar. 1945)
MUNSEE (21 Jan. 1943)
NARRAGANSETT (8 Aug. 1942)
NIPMUC (12 Apr. 1945)
PAIUTE (4 June 1945)
PAKANA (3 Mar. 1943)
PAPAGO (21 June 1945)
PAWNEE (31 Mar. 1942)
PINTO (5 Jan. 1943)
POTAWATOMI (3 Apr 1943)
QUAPAW (15 May 1943)
SALINAN (20 July 1945)
SENECA (2 Feb. 1943)
SERRANO (24 July 1943) **AGS 24**
SHAKORI (9 Aug. 1945)
SIOUX (27 May 1942)
TAKELMA (18 Sep. 1943)
TAWAKONI (28 Oct. 1943)
TAWASA (22 Feb. 1943)
TENINO (10 Jan. 1944)
TOLOWA (17 May 1944)
UTE (24 June 1942)
UTINA (31 Aug. 1945)
WENATCHEE (7 Sep. 1944)

Displacement:	1,235 tons *standard* (1,675 tons *full load*)
Dimensions:	195 (*w.l.*), 205 (*o.a.*)×38½×12 (*mean*), 15½ (*max.*)feet
Guns:	1—3 inch, 4—40 mm. AA. 2—20 mm. AA.; but some have had armament reduced
Machinery:	4 sets diesels with electric drive. B.H.P.: 3,000=16·5 kts.
Complement:	85

Notes

Launch dates above. Fitted with powerful pumps and other salvage equipment. (Some are fitted as wireless controlled target ships, including *Chicksaw*). ATF 67-72, 74-76, 81-88, 90-92, 96-98, 100-110, 113-116, 118, 148-163. *Wateree* (ATF 117) lost. *Sarsi* (ATF 111) sank after striking a mine off Korea, 27 Aug. 1952. A photograph of *Sioux* appears in the 1950-51 to 1957-58 editions. *Menominee*, ATF 73, was stricken on 1 Nov. 1959.

Avoyel and *Chilula* were transferred on loan to the U.S. Coast Guard in 1956.

Luiseno and *Papago* are fitted out as submarine rescue vessels like *Penguin* and *Skylark* (see earlier page). *Serrano*, ATF 112, was reclassfied as a surveyor ship, AGS 24, on 15 June 1960.

Yuma, ATF 94, was transferred to the Pakistan Navy on 25 Mar. 1959, and *Tekesta*, ATF 93, was loaned to Chile in 1960 for five yeras.



MOLALA (later no funnel type) — *Added* 1950, *U S. Navy, Official*

4 LT Type

T-ATA
240 (ex-U.S. Army *LT* 455) USNS
241 (ex-U.S. Army *LT* 60)
T-ATA
242 (ex-U.S. Army *LT* 132)
243 (ex-U.S. Army *LT* 646

Displacement:	534 tons *standard* (835 tons *full load*)
Dimensions:	143 (*o.a.*)×33⅓×13⅜ (*max.*) feet
Machinery:	Diesel-electric B.H.P.: 1,500=13 kts.

Notes

T-ATA 240 assigned to Military Sea Transportation Service. Remainder in Pacific Reserve Fleet. T-ATA 239 (ex-*LT* 532) was returned to U.S. Army. T-ATA 244 (ex-*LT* 156) was stricken on 1 Nov. 1959. T-ATA 242 and T-ATA 243 were transferred to the Maritime Administration Reserve Fleet at Olympia, Washington in 1960.

Large Harbour Tugs (YTB)

YTB 752 EDENSHAW — **YTB 753 MARIN**

Displacement:	400 tons
Dimensions:	108×28 feet
Machinery:	Diesel. S.H.P.: 1,800. Controllable pitch propellers

Notes

Built by Christy Corp., Sturgeon Bay, Wis. Steel hulled. YTB 752 is completed. YTB 753 was launched on 22 Apr. 1960.

The U.S. Navy has 187 Harbour Tugs, Big, listed under service craft, and designated YTB. 91 to 135 feet in length. All have Indian names. Four large harbour tugs being built by Southern Shipbuilding Corp., Slidell, Louisiana, under the 1959 new construction program, are of 356 tons and 103 feet (*o.a.*). Aothre YTB of 265 tons is requested in the Fiscal Year 1960 program.

Medium Harbour Tugs (YTM)

Notes

There are 2 Harbour Tugs, Medium, officially designated YTM, of 110 feet in length.

Small Harbour Tugs (YTL)

Notes

There are 96 Harbour Tugs, Little, designated YTL, ranging from 66 to 83 feet in length.

UNITED STATES COAST GUARD

Administration

Commandant, U.S.C.G.: Admiral Alfred C. Richmond.
Assistant Commandant: Vice-Admiral James A. Hirshfield.
Engineer-in-Chief: Rear-Admiral E. H. Thiele.
Superintendent of U.S.C.G. Academy: Rear-Admiral Stephen H. Evans.

Personnel

1957: Approximately 32,000 officers and men.
1958: Approximately 30,000 officers and men.
1959: Maximum strength: 30,578 officers and men.
1960: Authorised strength : 31,105 officers and men.

I.—ESTABLISHMENT

The United States Coast Guard was established by the Act of Congress approved January 28, 1915, which consolidated the Revenue Cutter Service founded in 1790 and the Life Saving Service founded in 1878.

The act of establishment as amended provides (Title 14, U.S. Code, Part I, Sect. I) "The Coast Guard as established January 28, 1915, shall be a military service and a branch of the armed forces of the United States at all times. The Coast Guard shall be a service in the Treasury Department, except when operating as a service in the Navy."

The Lighthouse Service, founded in 1789, was transferred to the Coast Guard on July 1, 1939, as a result of the President's Reorganization Plan No. 11.

On February 28, 1942, the President transferred temporarily from the Secretary of Commerce to the Commandant of the Coast Guard certain safety-at-sea functions of the former Bureau of Marine Inspection and Navigation. The President's Reorganization Plan III, which became effective July 16, 1946, made this temporary transfer of functions permanent.

II.—DUTIES

1. The peacetime duties of the Coast Guard have as their principal objective safety and security at sea through enforcement of the navigation laws, saving life and assistance to vessels in distress, maintenance of aids to navigation, and marine inspection.

2. Law enforcement duties, performed for all departments of the government, include those relating to customs, movements and anchorage of vessels, immigration, quarantine, neutrality, navigation and other laws governing merchant vessels and motor boats, safety of life on navigable waters during regattas, oil pollution, sponge fisheries, protection of game, seal and fisheries in Alaska, protection of bird reservations established by Executive Order and suppression of mutinies.

3. Life saving and assistance duties include maintenance of coastal stations and communication lines on the continental coasts of the United States, conduct of the International Ice Patrol, icebreaking, weather patrol, derelict destruction, winter cruising on the Atlantic coast, extension of medical aid to fishing vessels, Bering Sea Patrol and flood relief work. In its humanitarian duties the Coast Guard renders aid and assistance to vessels and aircraft in distress irrespective of nationality and extends its protection, if needed, to all shipping within the scope of its operations.

4. The Coast Guard establishes and maintains navigation aids, consisting of lighthouses, lightships, radio beacons, buoys, radar beacons, loran, and unlighted beacons on the sea and lake coasts of the United States, on the rivers of the United States as authorized by law, and on the coasts of all other territory under United States Jurisdiction, with the exception of Panama.

DUTIES—*continued*

5. In time of national emergency or when the President so directs the Coast Guard operates as a part of the Navy.

A military organization was adopted at the time the service was established in 1790, before the establishment of the Navy Department. This organization has been continued since that date for the purpose of maintaining the general efficiency of the operation of the service in its law enforcement duties in time of peace.

The executive direction under which the Coast Guard operates as a part of the Navy in time of war is similar in effect to a measure of mobilization. In this respect the Coast Guard is a potential reserve force for the Navy.

No personnel are normally assigned or equipped as land troops. Vessels are prepared in emergencies to equip landing forces with small arms and machine guns; stations are similarly prepared to undertake emergency police duties in a more limited sense, because of the smaller units involved, but in both cases these duties would be incidental to the primary purpose of the service, the enforcement of law on the high seas and navigable waters of the United States and the saving of life and property.

III.—ORGANIZATION

For the administration and operation of the Coast Guard, the United States, including its territories and insular possessions and the waters adjacent thereto are divided into 12 districts, each under the command of a district commander operating directly under the Commandant of the Coast Guard.

IV.—PERSONNEL

Uniforms of officers and men are similar to those of U.S. Navy, but commissioned officers wear a gold shield on the sleeve instead of a star, and cap device is a gold spread-eagle, the talons grasping a horizontal foul anchor. A silver shield is mounted on the eagle's breast. Enlisted men and women of the Coast Guard wear a shield on the lower right sleeve.

V.—VESSELS

Coast Guard vessels are designated Coast Guard cutters. Those of 110 feet tug type and below are detailed to the larger maritime ports to enforce Customs and Navigation laws and the regulation of the anchorage and movement of vessels.

VI.—AVIATION

Air stations in commission number nine. Location: Salem, Mass.; Brooklyn, N.Y.; Miami, Fla.; St. Petersburg, Fla.; San Diego, California; Port Angeles, Washington; Elizabeth City, N.C.; San Francisco, California; Traverse City, Michigan.

There are also 14 air detachments in the U.S., Newfoundland, Bermuda, Puerto Rico, Hawaii, Alaska, Guam, Philippines and Italy.

FRIGATE TYPE PATROL GUNBOATS

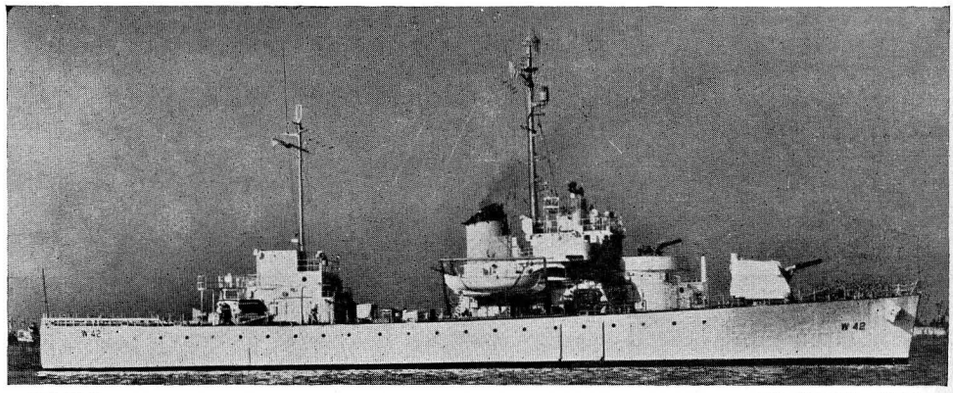
13 " Owasco " Class (WPG)

48 **ANDROSCOGGIN**
41 **CHATAUQUA**
64 **ESCANABA** (ex-*Otsego*)
43 **IROQUOIS** not active list (see *Notes*)
66 **KLAMATH**
69 **MENDOTA**
67 **MINNETONKA** (ex-*Sunapee*)
39 **OWASCO**
70 **PONTCHARTRAIN** (ex-*Okeechobee*)
42 **SEBAGO** (ex-*Wachusett*)
44 **WACHUSETT** (ex-*Huron*)
40 **WINNEBAGO**
65 **WINONA**

Displacement:	1,563 tons *standard* (1,913 tons *full load*)
Dimensions:	254 (*o.a.*) × 43 × 15 (*mean*), 16½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—40 mm. AA.
A/S weapons:	D.C.T.
Machinery:	Geared turbines with electric drive by Westinghouse Co. S.H.P.: 4,000=18 kts.
Boilers:	2
Oil fuel:	350 tons
Radius:	14,800 miles at 11 kts.
Complement:	140

Note

Rated as 255 ft. Cutters. All built by Western Pipe & Steel Co., except *Mendota* and *Pontchartrain*, by the Coast Guard Shipyard. All named after Indian tribes. Anti-submarine weapons were re-installed in 1950. *Iroquois* was decommissioned to reserve in 1955 and is in storage at the Coast Guard Yard, Curtis Bay, Md. The four 20 mm. AA. guns, hedgehog, K-guns and depth charge racks were removed in 1957.



SEBAGO — 1955, *U.S.C.G., Official*

Name	*Launched*	*Completed*	*Name*	*Launched*	*Completed*
Androscoggin	16 Sep. 1945	20 Sep. 1946	*Minnetonka*	21 Nov. 1945	20 Sep. 1946
Chautauqua	14 May 1944	4 Aug. 1945	*Owasko*	18 June 1944	18 May 1945
Escanaba	25 Mar. 1945	20 Mar. 1946	*Pontchartrain*	29 Apr. 1944	28 July 1945
Iroquois	22 Oct 1944	9 Feb. 1946	*Sebago*	28 May 1944	20 Sep. 1945
Klamath	2 Sep. 1945	5 Sep. 1946	*Wachusett*	5 Nov. 1944	23 Mar. 1946
Mendota	29 Feb. 1944	2 June 1946	*Winnebago*	2 July 1944	21 June 1945
			Winona	22 Apr. 1945	15 Aug. 1946

6 " Campbell " Class (WPG)

1 *Charleston Navy Yard*

WPG
31 BIBB (ex-*George M. Bibb*)

1 *New York Navy Yard*

WPG
36 SPENCER (ex-*John C. Spencer*)

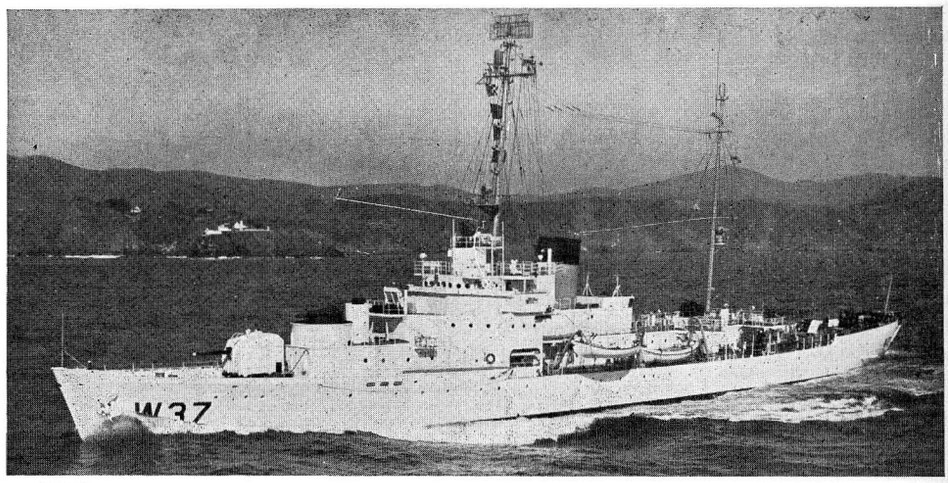
4 *Philadelphia Navy Yard*

WPG
32 CAMPBELL (ex-*George W. Campbell*)
33 DUANE (ex-*William J. Duane*)
35 INGHAM (ex-*Samuel D. Ingham*)
37 TANEY (ex-*Roger B. Taney*)

Displacement:	2,216 tons *standard* (2,785 tons *full load*)
Dimensions:	308 (*w.l.*), 327 (*o.a.*) × 41 × 12⅜ (*mean*), 14½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 2—40 mm. AA.
A/S weapons:	D.C.T.
Machinery:	Westinghouse geared turbines. 2 shafts. S.H.P.: 6,200=20·5 kts. (20 kts. sea speed)
Boilers:	2 Babcock & Wilcox
Oil fuel:	572 tons
Radius:	8,000 miles at 12·5 kts., 12,300 miles at 11 kts.
Complement:	202

Notes

Rated as 327 ft. Cutters. Named after former Secretaries of the Treasury. All this class originally mounted four 5-inch guns. The four 20 mm. AA. guns were removed in 1957.



TANEY — 1956, *U.S.C.G., Official*

New Construction

Design for ship to replace the large cutters requested in Fiscal Year 1961.

Second World War Loss:—Alexander Hamilton, WPG 34.

Recent Disposal

The patrol gunboat *Tampa*, WPG 164 (ex-*Sebec*, ex-H.M.S. *Banff*, ex-*Saranac*) was sold for scrap in 1959.

Name	*Launched*	*Completed*
Bibb	14 Jan. 1937	10 Mar. 1937
Campbell	3 June 1936	22 Oct. 1936
Duane	3 June 1936	16 Oct. 1936
Ingham	3 June 1936	6 Nov. 1936
Spencer	6 Jan. 1937	13 May 1937
Taney	3 June 1936	19 Dec. 1936

Former Navy Seaplane Tenders

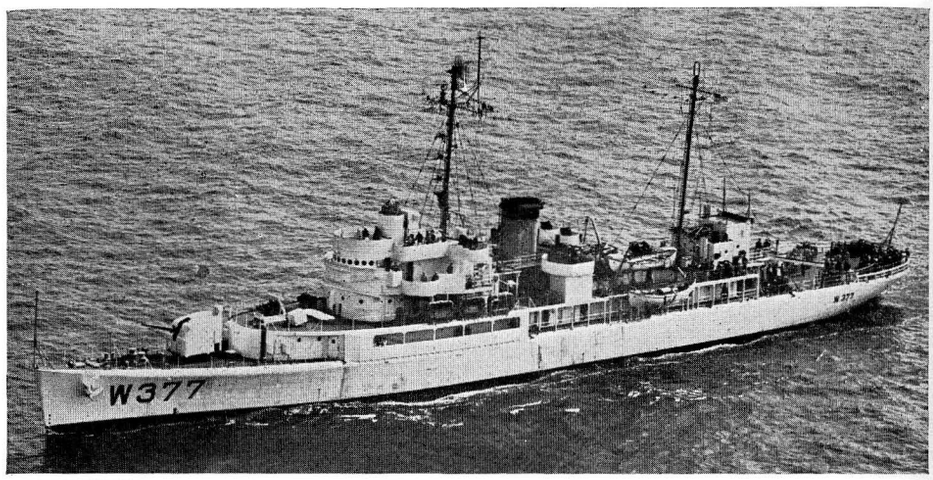
18 " Casco " Class (WAVP)

WAVP
370 CASCO (ex-*AVP* 12)
371 MACKINAC (ex-*AVP* 13)
372 HUMBOLDT (ex-*AVP* 21)
373 MATAGORDA (ex-*AVP* 22)
374 ABSECON (ex-*AVP* 23)
375 CHINCOTEAGUE (ex-*AVP* 24)
376 COOS BAY (ex-*AVP* 25)
377 ROCKAWAY (ex-*AVP* 29)
378 HALF MOON (ex-*AVP* 26)
379 UNIMAK (ex-*AVP* 31)
380 YAKUTAT (ex-*AVP* 32)
381 BARATARIA (ex-*AVP* 33)
382 BERING STRAIT (ex-*AVP* 34)
383 CASTLE ROCK (ex-*AVP* 35)
384 COOK INLET (ex-*AVP* 36)
385 DEXTER (ex-*Biscayne*, ex-*AGC* 18, ex-*AVP* 11)
386 McCULLOCH (ex-*Wachapreague*, ex-*AGP* 8, ex-*AVP*56)
387 GRESHAM (ex-*Willoughby*, ex-*AGP* 9, ex-*AVP* 57)

Displacement:	1,766 tons (2,800 tons *full load*)
Dimensions:	310¾ (*o.a.*) × 41 × 13½ (*max.*) feet
Guns:	1—5 inch, 38 cal., 4—40 mm. AA.
A/S weapons:	Hedgehog, D.C.T., 8 Y guns
Machinery:	Diesel. B.H.P.: 6,080=18·2 kts. (see *Notes*).
Complement:	215

Notes

Rated as 311 ft. Cutters. All except last three AVPs on loan from U.S. Navy. Employed as weather ships. The four 20 mm. AA. guns were removed in 1957. *Dexter* was refitted with four new Fairbanks-Morse diesels in 1957 and was recommissioned in July 1958 for duty as West Coast Training Ship. *Unimak* is East Coast Training Ship.



ROCKAWAY — *Added*, 1958, *Skyfotos*

Name	*Builders*	*Launched*	*Completed*	*Name*	*Builders*	*Launched*	*Completed*
Absecon	Lake Washington Shipyard	8 Mar. 1942	1942	*Gresham*	Lake Washington Shipyard	21 Aug. 1942	1944
Barataria	Lake Washington Shipyard	2 Oct. 1943	1944	*Half Moon*	Lake Washington Shipyard	12 July 1942	1942
Bering Strait	Lake Washington Shipyard	15 Jan. 1944	1944	*Humboldt*	Boston Naval Shipyard	17 Mar. 1941	1941
Casco	Puget Sound Naval Shipyard	15 Nov. 1941	1942	*McCulloch*	Lake Washington Shipyard	10 July 1942	1944
Castle Rock	Lake Washington Shipyard	11 Mar. 1944	1944	*Makinac*	Puget Sound Naval Shipyard	15 Nov. 1941	1942
Chincoteague	Lake Washington Shipyard	15 Apr. 1942	1942	*Matagorda*	Boston Naval Shipyard	18 Mar. 1941	1941
Cook Inlet	Lake Washington Shipyard	13 May 1944	1944	*Rockaway*	Associated Shipbuilders	14 Feb. 1942	1942
Coos Bay	Lake Washington Shipyard	15 May 1942	1942	*Unimak*	Associated Shipbuilders	27 May 1942	1942
Dexter	Puget Sound Naval Shipyard	15 Nov. 1941	1941	*Yakutat*	Associated Shipbuilders	2 July 1942	1942

PATROL BOATS (WPB)



CG 95321 ("C" Class) 1959, *U.S.C.G., Official*



CG 95317 ("B" Class) 1959, *U.S.C.G., Official*

35 Steel Type

"C" Class	"B" Class	"A" Class
CG 95321—95335 (built 1958-59)	**CG 95312—95314, 95316—95320** (built 1955-56)	**CG 95300—95311** (built 1953)

Displacement:	101·75 tons
Dimensions:	95 (*o.a.*) × 19 × 5 feet
Guns:	"B" Class: 1—40 mm., D.C.T. "A" Class: 2—20 mm., D.C.T.
Machinery:	4 Diesels. 2 shafts (2 engines in tandem each shaft). B.H.P.: 2,200=21 kts. (*max.*)
Radius:	1,500 miles cruising range
Complement:	15 ("A" and "B" classes), 13 ("C" class)

General Notes

U.S. Coast Guard's newest type of patrol boats, rated as 95-foot cutters. Designed by Coast Guard engineers, built at the Coast Guard Yard, Curtis Bay, Maryland, for port security, search and rescue activities. Steel hulled, twin screws. The "A" class (photograph in the 1958-59 and earlier editions) were the first general duty craft built by the Coast Guard since the Second World War. They combine all the latest developments in ship construction and navigational aids. Equipment includes radio direction finder and radar fathometer, gyro compass and loran receiver. Space for depth charges. Mechanical ventilation with individual thermostat heat control in each compartment, heat and sound insulation, fluorescent lighting. Fire resistant throughout. Eight "C" class boats, for search and rescue duties, with less armament, electronics and displacement were built under the 1958 Fiscal Year Budget, and seven more under the 1959 Budget.

Transfer Notes

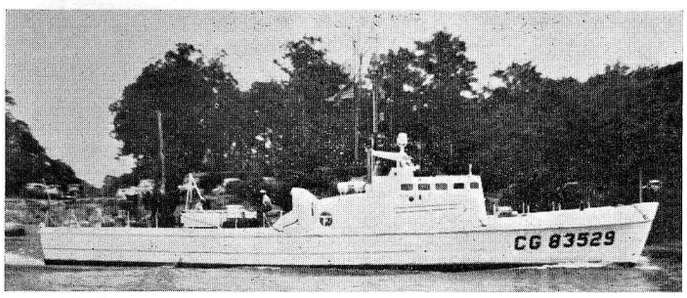
Two were built for Ethiopia, two for Haiti, four for Iran, one for Saudi Arabia and four for Thailand.

17 New Construction

Displacement:	65 tons
Dimensions:	78⅛ (*w.l.*), 82⅝ (*o.a.*) × 17¼ × 5¾ (*mean*), 6 (*max.*) feet
Machinery:	Diesels. 2 shafts. B.H.P.: 1,200=18 kts.
Complement:	10

Notes

In the 1960 Fiscal Year CG 82301—82317 will replace 17 83-ft. wooden boats. They will have steel hulls, unmanned engine room controlled from bridge, power steering and air conditioning. 14 82-ft. boats are to be built by the Coast Guard Yard in July 1960 to July 1961. A total of 45 boats are to be built. CG 82318 will have 1,600 B.H.P.



CG 83529 1959, *James Flynn*

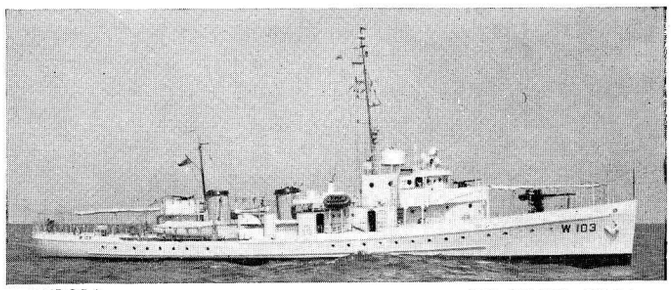
45 Wooden Type

Displacement:	45 tons
Dimensions:	83 × 16 × 4½ feet
Guns:	20 mm. Oerlikons
Machinery:	2 petrol engines. H.P.: 1,200=20·5 kts. (Seven of these boats have been re-engined with diesels)
Complement:	10

Notes

Rated as 83 ft. Cutters. Launched 1938-42. Wood. Many transferred to Burmese, Cuban, Dominican, Equadorian, Mexican and Peruvian Navies. Cutters (WYT), lengths 64, 63 and 56 feet also in service. All have figure of length prefixed to official number on bows for ready recognition of type, e.g. CG 83529 as in photo.

PATROL CRAFT



AURORA 1952, *U.S.C.G., Official*

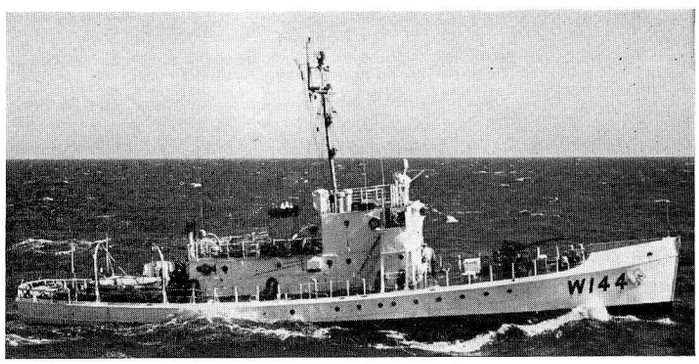
6 "Argo" Class (WPC)

ARIADNE **DIONE** **NIKE** **TRITON**
AURORA **NEMESIS**

Displacement:	334-337 tons
Dimensions:	165 × 25½ × 9½ feet
Guns:	1—3 inch, 50 cal.
Machinery:	Winton Diesels. 2 shafts. B.H.P.: 1,340=16 kts.

Notes

Rated as 165 ft. Cutters. Built of steel. All launched in 1931-34. WPC 101, 103, 107 111, 112, 116, respectively. *Atlanta*, *Cyane* and *Daphne* were stricken from the list in 1955. *Argo* and *Calypso* were sold in Nov. 1955. *Hermes* for sale in 1958. *Pandora* and *Perseus* were sold in 1959.



LEGARE 1960, *U.S.C.G., Official*

18 "Active" Class (WSC)

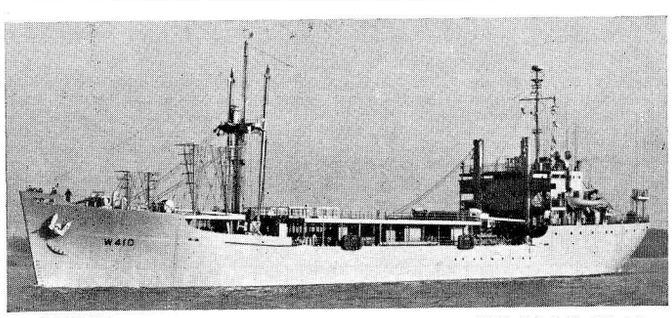
ACTIVE **CAHOONE** **EWING** **MARION**
AGASSIZ **CARTIGAN** **FREDERIC LEE** **McLANE**
ALERT **CUYAHOGA** (WIX) **GENERAL GREENE** **MORRIS**
BOUTWELL **DILIGENCE** **KIMBALL** **TRAVIS**
LEGARE **YEATON**

Displacement:	220 tons
Dimensions:	125 (*o.a.*) × 23½ × 9 (*max.*) feet
Guns:	1—40 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 800=13 kts.

Notes

Rated as 125 ft. Cutters. Built of steel. All launched 1926-27. All re-engined in 1939-42. WSC 125, 126, 127, 130, 131, 132, 157, 135, 137, 139, 140, 143, 144, 145, 146, 147, 153, 156, respectively. *Cuyahoga*, formerly assigned to Field Testing and Development Unit, located at the Coast Guard Yard, Baltimore, Maryland, was reassigned to the Coast Guard Academy as officer Candidate Training Vessel and her classification changed to WIX. *Crawford* was disposed of (transferred to Woods Hole Oceanographic Institute) in 1955. *Colfax* and *Vigilant* were sold in 1956. *Bonham*, WSC 129, was disposed of in 1959 (decommissioned at Seattle on 20 Apr. 1959).

RADIOSHIP (WAGR)



COURIER 1952, *U.S.C.G., Official*

WAGR

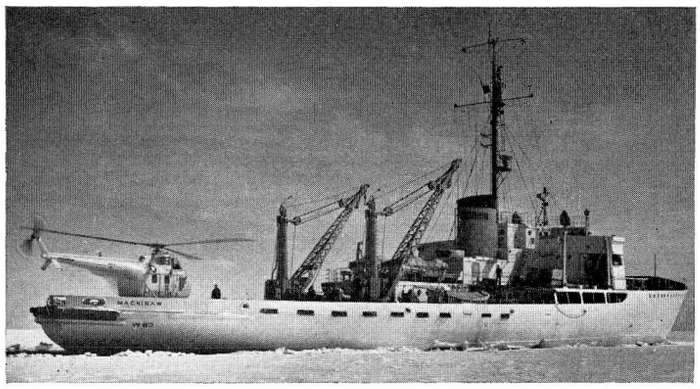
410 COURIER (ex-*Coastal Messenger*, ex-U.S.S. *Doddridge*)

Displacement:	5,800 tons
Measurement:	5,926 tons *deadweight*
Dimensions:	338⅓ × 50⅓ × 21 (*max.*) feet
Machinery:	Diesel, direct drive. B.H.P.: 1,600=10 kts.
Radius:	Approximately 14,500 miles

Notes

Courier, CI-M-AV1 type, launched 1945, is manned by the Coast Guard for the United States Information Agency as a relay station for the Voice of America. She was built as a naval cargo ship (AK 176) but was not used by the Navy. Of similar characteristics to the supply ship *Kukui*, see next page. For duty in foreign waters. Virtually a seagoing radio broadcasting station. Transmitting equipment is most powerful of its kind ever installed in any vessel. Commissioned 15 Feb. 1952.

ICEBREAKERS (WAGB)



MACKINAW 1958, *U.S.C.G., Official*

1 "Mackinaw" Type

MACKINAW (ex-*Manitou*)

Displacement:	5,252 tons *standard* (8,775 tons *full load*)
Dimensions:	290 (*o.a.*) × 75 × 19 (*max.*) feet
Guns:	M.G.
Aircraft:	1 helicopter
Machinery:	Diesel, with electric drive. 3 shafts. (1 forward, 2 aft) B.H.P.: 10,000=16 kts.
Radius:	6,000 miles at cruising speed

Notes

No. WAGB 83. Built by Toledo Shipbuilding Co., Ohio. Laid down on 20 Mar. 1943. Launched on 6 Mar. 1944. Commissioned on 20 Dec. 1944. Completed in Jan. 1945. Specially designed and constructed with 1⅛ in. plating for service as an icebreaker on the Great Lakes. Equipped with two 12-ton cranes. Helicopter platform aft. Cost $10,000,000.



EASTWIND 1958, *U.S.C.G. Official*

3 "Wind" Class

EASTWIND **NORTHWIND** **WESTWIND**

Displacement:	3,500 tons *standard* (6,515 tons *full load*)
Dimensions:	250 (*pp.*), 269 (*o.a.*) × 63½ × 25¾ feet
Guns:	*Eastwind*: 2—3 inch, 50 cal.; 4—20 mm. *Northwind*: 2—5 inch, 38 cal.; 4—40 mm. *Westwind*: 1—5 inch, 38 cal.; 4—40 mm.
Machinery:	Diesel, with electric drive. 2 shafts. 2 stern propellers. B.H.P.: 13,300=16 kts.
Radius:	11,000 miles

Notes

Armament now reduced. Forward shafts removed. All three ships have a helicopter platform aft. Construction entirely welded, with double hull and exceptionally heavy plating designed to crush 9 ft. ice. *Northwind* (first ship of that name), *Southwind* and *Westwind* were lent to Russian Navy in 1945. *Southwind* returned 1950 (see earlier page, U.S. Navy section), other two December 1951. *Eastwind* severely damaged in collision 19 Jan., 1949, recommissioned 17 May, 1950, after repairs at Newport News.

No.	*Name*	*Builders*	*Launched*
WAGB 279	*Eastwind*	Western Pipe & Steel Co.	6 Feb. 1943
WAGB 282	*Northwind*		25 Feb. 1945
WAGB 281	*Westwind*		31 Mar. 1943

LIGHT ICEBREAKER (WAG)

Search and Rescue Type (Miscellaneous Auxiliary)

STORIS (ex-*Eskimo*)

Displacement:	1,715 tons
Dimensions:	230 (*o.a.*) × 43 × 14 (*mean*), 15 (*max.*) feet
Machinery:	Diesel, with electric drive. B.H.P.: 1,800=13·5 kts.
Guns:	2—3 inch
Aircraft:	2 helicopters

Notes

No. WAG 38. Built by Toledo Shipbuilding Co., Ohio. Launched in 1942. Ice patrol tender. Helicopter platform aft. Strengthened for ice navigation and employed on Alaskan service. Search, rescue and law enforcement are primary duties. Makes supply runs to isolated Coast Guard installations within her patrol area.

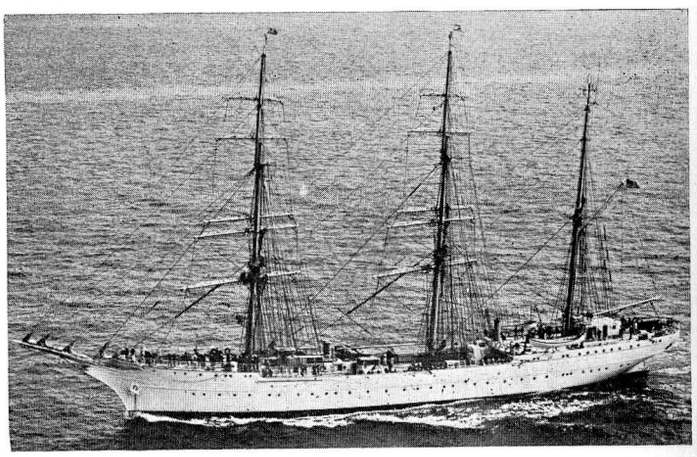
The President vetoed a Congress-passed bill authorising an atomic-powered ice-breaker for the Coast Guard, Aug. 1958. To have cost about $60,000,000.

Icebreakers—*continued*



STORIS 1958, *U.S.C.G. Official*

TRAINING SHIPS (WIX)



EAGLE *Added* 1958, *Skyfotos*

1 Ex-German Type (Auxiliary Barque)

EAGLE (ex-*Horst Wessel*)

Displacement:	1,634 tons (1,800 tons *full load*)
Dimensions:	265¾ (*pp.*), 295¼ (*o.a.*) × 39½ × 15¾ (*mean*) 17 (*max.*) feet
Sail area:	21,350 sq. ft.
Height of masts:	150 feet
Speed:	As high as 18 kts. under full sail alone
Machinery:	2 M.A.N. auxiliary Diesels. 1 shaft B.H.P.: 750=10 kts.
Oil fuel:	48 tons
Radius:	3,500 miles at 10kts.
Complement:	280

Notes

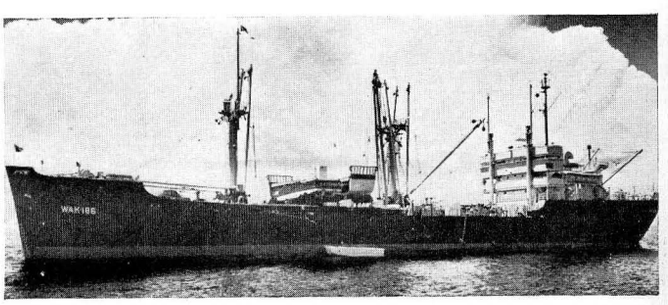
Former German training ship for naval cadets. Built by Blohm & Voss, Hamburg. Launched on 13 June 1936. Taken by the United States as a reparation after the war for employment in U.S. Coastguard Practice Squadron. Has made five cruises to European waters to train C.G. cadets. Sister ship, *Albert Leo Schlageter*, also fell into American hands, but was sold to Brazil.

PETREL

Notes

Sailing yacht acquired on 1 July 1955.

SUPPLY SHIPS (WAK)



KUKUI 1957, *U.S.C.G., Official*

KUKUI (ex-U.S.S. *Colquitt*, AK 174)

Displacement:	4,900 tons (5,800 tons *gross*)
Dimensions:	338½ (*o.a.*) × 50 × 21 (*max.*) feet
Machinery:	Nordberg Diesel B.H.P.: 1,700=12 kts.

Notes

WAK 186. Built 1945 by Froemming Bros., Milwaukee, Wisc. Launched 1944. Maritime Administration type C1-M-AV1. Appearance similar to that of Radioship *Courier*, see previous page.

NETTLE (ex-*FS 396*),

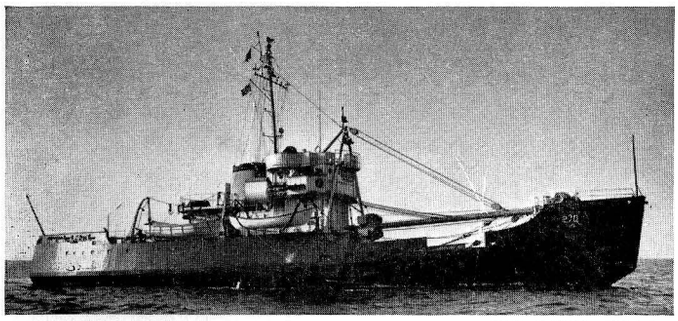
Displacement:	728 tons
Dimensions:	176½ (*o.a.*) × 32 × 10 (*max.*) feet
Machinery:	Diesel. B.H.P.: 1,000=13 kts.

Ex-Army craft. WAK 169. Launched 1944. *Trillium* was transferred to U.S. Navy reserve fleet, 7 July 1955, for delivery to the Korean Navy in 1956.

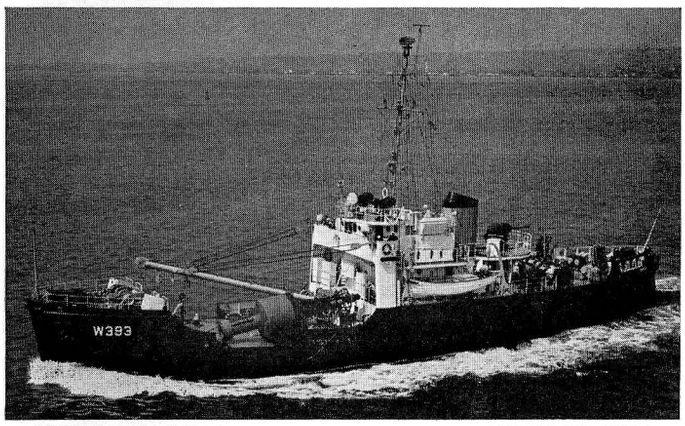
Transfer Note

The cable layer *Yamacraw*, WARC 333, was transferred to the U.S. Navy on a loan basis in 1959, see earlier page.

BUOY TENDERS (WAGL)



CACTUS — 1959, *U.S.C.G., Official*



FIREBUSH (" Iris " Class) — 1959, *U.S.C.G., Official*

38 " Cactus " and " Iris " Classes

20 *Marine Iron & S.B. Co., Duluth*

BASSWOOD
BLACKHAW (June 18, 1943)
BLACKTHORN (July 20, 1943)
BUTTONWOOD (Nov. 28, 1942
CACTUS (Nov. 25, 1941)
CITRUS (Aug. 15, 1942)
CLOVER (1942)
CONIFER (Oct. 3, 1942)
COWSLIP (1942)
EVERGREEN
HORNBEAM (Aug. 15, 1943)
MESQUITE (Nov. 14, 1942)
PAPAW
PLANETREE
SASSAFRAS (1943)
SEDGE (1943)
SPAR (Nov. 2, 1943)
SUNDEW (Feb. 8, 1944)
SWEETBRIAR (Dec. 30 1943)
SWEETGUM (1943)

17 *Zenith Dredge Co., Duluth*

ACACIA (ex-*Thistle*, April 7, 1944)
BALSAM (1942)
BITTERSWEET (1943)
BRAMBLE (1943)
FIREBUSH (1943)
GENTIAN (1942)
IRIS (March 10, 1944)
LAUREL (Aug. 4, 1942)
MADRONA (Nov. 11, 1942)
MALLOW (1943)
MARIPOSA (Jan. 7, 1944)
SAGEBRUSH (Sep. 30, 1943)
SALVIA (Sep. 15, 1943)
SORREL (Sep. 28, 1942)
TUPELO (Nov. 28, 1942)
WOODBINE
WOODBRUSH (1914)

1 *Coast Guard Shipyard, Curtis Bay*

IRONWOOD (March, 1943)

Displacement: 935 tons
Dimensions: 180 (*o.a.*) × 37 × 12 (*mean*), 14 (*max.*) feet
Machinery: Diesel, with electric drive. B.H.P.: 1,200=14 kts. (except *Citrus*, *Clover*, *Conifer*, *Cowslip Evergreen*, *Tupelo*, *Woodbine*, which are B.H.P.: 1,000=13 kts.)
Some have Sundew diesels of 1,800 B.H.P.

General Notes
Builders and launch dates above. *Redbud* was lent to the Military Sea Transportation Service as an AKL (Cargo Ship Light)

Photograph Notes
A starboard broadside view of *Blackhaw* appears in the 1958-59 and earlier editions.

1 " Aster " Class

ASTER

Displacement: 500 tons (*full load*)
Dimensions: 105 (*o.a.*) × 30⅔ × 8 (*max.*) feet
Machinery: Diesel-electric

Notes
Launched in 1943. Of wooden construction. Sister Ship *Thistle* decommissioned in 1957, and was sold in 1959.

8 " White " Class

WHITE ALDER **WHITE HOLLY** **WHITE SAGE**
WHITE BUSH **WHITE LUPINE** **WHITE SUMAC**
WHITE HEATH **WHITE PINE**

Displacement: 435 tons
Dimensions: 133 (*o.a.*) × 30 × 10 (*max.*) feet
Machinery: Diesel-electric. B.H.P.: 300 = 10 kts.

Notes
All launched in 1943.

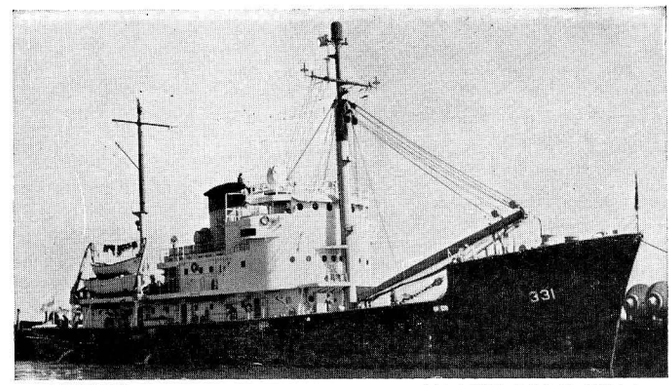
1 " Juniper " Type

JUNIPER

Displacement: 794 tons
Dimensions: 177 × 32⅔ × 9¼ feet
Machinery: Diesel, with electric drive. 2 shafts. B.H.P.: 900=13 kts.

Notes
Launched on 18 May, 1940.

Buoy Tenders—*continued*



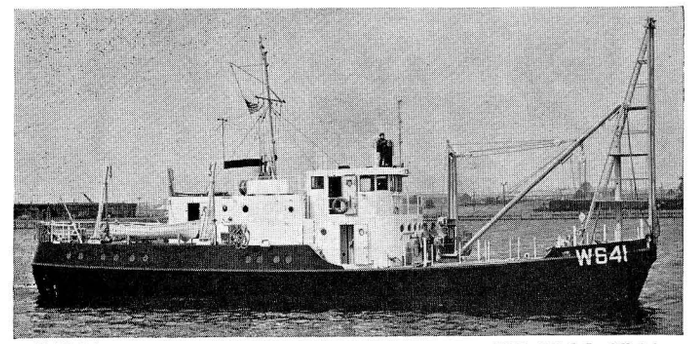
HEATHER — *Added* 1954, *U.S.C.G., Official*

5 " Heather " Class Former Navy Minelayers

HEATHER (ex-*Obstructor*) **JONQUIL** (ex-*Bastian*) **WILLOW** (ex-*Picket*)
IVY (ex-*Barbican*) **MAGNOLIA** (ex-*Barricade*)

Displacement: 1,054 tons (1,250 tons *full load*)
Dimensions: 188⅔ (*o.a.*) × 37 × 12 (*max.*) feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 1,200=12 kts.

Notes
Ex-Army mineplanters, ex-U.S. Navy auxiliary minelayers, ACM 7, 5, 6, 3, 8, launched 1942. WAGL 331, 329, 330, 328, 332, respectively.



AZALEA — 1959, *U.S.C.G., Official*

9 " 100 ft " Class

AZALEA (18 Feb. 1958) **BRIER** **RAMBLER**
BARBERRY (14 Nov. 1942) **COSMOS** (11 Nov. 1942) **SMILAX**
BLUEBELL **PRIMROSE** **VERBENA**

Displacement: 178 tons
Dimensions: 100 × 24 × 4½ feet
Machinery: Diesel, with electric drive. 2 shafts. B.H.P.: 300=8·5 kts.
Complement: 13

Notes
Launch dates above. *Azalea*, WAGL 641, laid down on 1 Oct. 1957 and commissioned on 23 May 1958, was built at the Coast Guard Yard, Curtis Bay, Maryland, to replace the old *Palmetto*. She is air-conditioned and has a pile driver in the bow. She has a complement of 13 officers and men and cost $500,000.

3 " Maple " Class

MAPLE **NARCISSUS** **ZINNIA**

Displacement: 342 tons (*Maple*, 350 tons)
Dimensions: 122 × 27 × 6½ feet
Machinery: Diesel. 2 shafts. B.H.P.: 400=10 kts.

Notes
All launched in 1939.

MISTLETOE

Displacement: 1,040 tons
Dimensions: 173 × 34 × 11 feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=12 kts.

Notes
Launched in 1939.

3 " Hollyhock " Class

FIR (1939) **HOLLYHOCK** (1937) **WALNUT** (1939)

Displacement: 989 tons
Dimensions: 173 × 32 × 12 feet
Machinery: Diesel. 2 shafts. B.H.P.: 1,350=13 kts.

Notes
Walnut was converted and re-engined by Willamette Iron & Steel Co., Portland, Oregon in 1958.

HEMLOCK

Displacement: 1,005 tons
Dimensions: 175 × 32 × 12½ feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=12 kts.

Notes
Hemlock, launched in 1934, was decommissioned in 1958 and is in storage at Olympia, Washington.

Buoy Tenders—*continued*

TAMARACK

Displacement: 400 tons
Dimensions: 124×29×7½ feet
Machinery: Diesel, with electric drive. B.H.P.: 600=10 kts.

Notes
Tamarack was launched in 1934.

ARBUTUS

Displacement: 960 tons
Dimensions: 175×32×12¼ feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=11 kts.

Notes
Launched in 1934

HICKORY

Displacement: 400 tons
Dimensions: 131¼×24½×9½ feet
Machinery: Reciprocating. I.H.P. 500=12 kts.

Notes
Launched in 1933

LILAC

Displacement: 770 tons
Dimensions: 172×32×8½ feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=11·5 kts.

Notes
Launched in 1933.

3 "Columbine" Class

COLUMBINE (1931) **LINDEN** (1931) **WISTARIA** (1933)

Displacement: 323 tons
Dimensions: 121½×25×6¾ feet
Machinery: Diesel, with electric drive. B.H.P.: 240=9 kts.

Notes
Launch dates above. A new engine for *Linden* was approved in the Fiscal year 1959 program.

VIOLET

Displacement: 1,012 tons
Dimensions: 173½×32×10½ feet
Machinery: Reciprocating. 2 shafts. I.H.P.: 1,000=12 kts.

Notes
Launched in 1930.

2 "Hawthorn" Class

HAWTHORN **OAK**

Displacement: 875 tons
Dimensions: 160×30×9½ feet
Machinery: Reciprocating. I.H.P.: 750=8 kts.

Notes
Both launched in 1931. (The larger but older *Cedar* was sold in June 1955.)

Small Buoy Tenders

Smaller buoy tenders include the following:

CLEMATIS (1944) }
SHADBUSH (1944) } 93 tons
BIRCH (1939), 76 tons
JASMINE (1939) }
BLUEBONNET (1935) } 184 tons
ELM (1937), 69 tons

DAHLIA (1933), 160 tons
CHERRY (1932), 202 tons
MYRTLE (1932), 186 tons
ALTHEA (1930) }
POINCIANA (1930) } 120 tons
BEECH (1928), 255 tons

Notes
Blackrock was sold to the Government of Haiti in Nov. 1945. *Palmetto* was decommissioned in June 1958 and sold in 1958; she was replaced by the new *Azalea* (see "100-ft." class on page 461) in 1958. *Rhododendron* was decommissioned for sale in 1958.

River Buoy Tenders

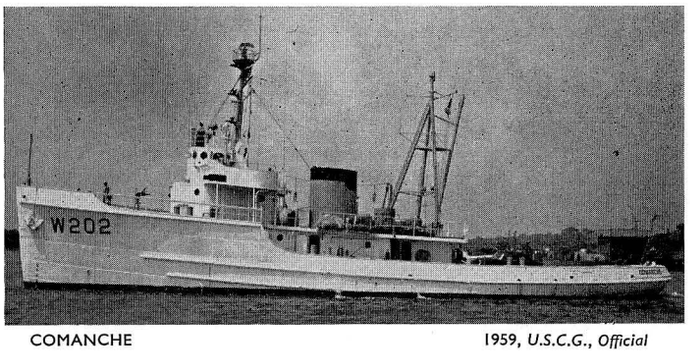
River service buoy tenders comprise the following:

FOXGLOVE (1944) }
SUMAC (1944) } 350 tons
FERN (6 Nov. 1942) }
LANTANA (1943) 273 tons
OLEANDER (1940) 80 tons

DOGWOOD (1942) }
FORSYTHIA (1940) } 230 tons
SYCAMORE (1940) }
GOLDENROD (1938) }
POPLAR (1939) } 193 tons

Notes
Goldenrod was re-engined in 1960.

AUXILIARY OCEAN TUGS



COMANCHE 1959, *U.S.C.G., Official*

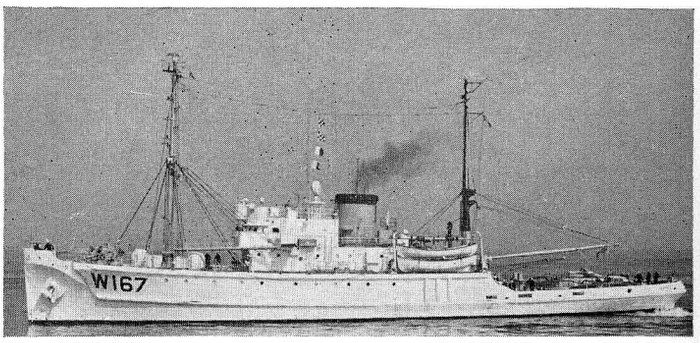
2 WATA Type

COMANCHE (ex-*Wampanoag*) **MODOC** (ex-*Bagaduce*)

Displacement: 534 tons *standard* (835 tons *full load*)
Dimensions: 134½ (*w.l.*), 143 (*o.a.*)×33¾×13 feet
Guns: 1—3 inch, 50 cal.
Machinery: Diesel-electric. B.H.P.: 1,500=13 kts.
Complement: 4 officers, 40 men.

Notes
WATA 202 and WATA 194, respectively. *Comanche* was transferred direct from the U.S. Navy, replacing *Pandora*. *Modoc* was transferred from the Maritime Administration to the Coast Guard and commissioned at Seattle on 20 Apr. 1959, replacing *Bonham*.

OCEANGOING TUGS (WAT)



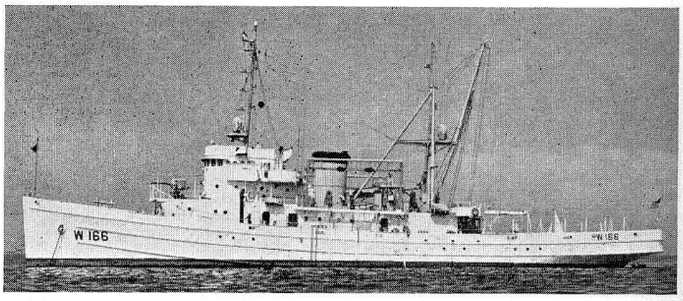
ACUSHNET 1960, *U.S. Coast Guard, Official*

2 WAT Type

ACUSHNET (ex-*Shackle*) **YOCONA** (ex-*Seize*)

Displacement: 1,557 tons
Dimensions: 207 (*w.l.*), 213½ (*o.a.*)×39×13 (*mean*), 15½ (*max.*) feet
Machinery: Diesel-electric. 2 shafts. H.P.: 3,000=14 kts.

Notes
WAT 167 and WAT 168. Launched on 1 Apr. 1943 and 8 Apr. 1944, respectively.



TAMAROA 1959, *U.S.C.G., Official*

4 WATF Type

AVOYEL (9 Aug. 1944) **CHILULA** (1 Dec. 1944)
CHEROKEE (10 Nov. 1939) **TAMAROA** (13 July 1943)

Displacement: 1,170 tons
Dimensions: 195 (*w.l.*), 205½ (*o.a.*)×38½×12 (*mean*), 16 (*max.*) feet
Guns: 1—3 inch, 50 cal., 2—20 mm. AA.
Machinery: Diesel-electric. H.P.: 3,000=16 kts.

Notes
WATF 150, 165, 153 and 166, respectively. *Avoyel* and *Chilula* have been on loan from the United States Navy since 1956 (recommissioned from the Reserve Fleet).

HARBOUR TUGS (WYT)

13 "Arundel" Class

ARUNDEL (June 24, 1939) **MOHICAN** (July, 1943)
MAHONING (July 22, 1939) **OJIBWA** (Aug. 10, 1943)
NAUGATUCK (March 23, 1939) **SAUK** (Aug. 10, 1943)
RARITAN (March 23, 1939) **SHONOMISH** (Aug. 10, 1943)
KAW (1942) **APALACHEE** (1943)
MANITOU (Sep. 29, 1942) **YANKTON** (1943)
CHINOOK (July 1943)

Displacement: 328 tons
Dimensions: 110 (*o.a.*)×26½×10½ (*mean*), 12¼ (*max.*) feet
Machinery: Diesel-electric. S.H.P.: 1,000=12 kts.

Notes
First pair were built by Gulfport Works, Port Arthur, Texas; second pair by Defoe Works, Bay City, Mich.; third pair by Coast Guard Yard, Curtis Bay, Md.; remaining 7 by Ira S. Bushey & Son, Brooklyn, N.Y. Launch dates above. Strengthened for icebreaking.

4 "Calumet" Class

3 *Charleston Navy Yard* 1 *Portsmouth Navy Yard*
CALUMET **HUDSON**
NAVESINK
TUCKAHOE

Displacement: 290 tons
Dimensions: 110½×24×10½ (*mean*), 11½ (*max.*) feet
Machinery: Diesel, with electric drive. B.H.P.: 800=12 kts.

Notes
All launched in 1934. Builders above. (Six new steel-hulled harbour tugs were requested in the Fiscal Year 1961 program.)

Transfer Notes
Yonaguska, WYT 195, has been returned to the U.S. Navy from which she was on loan.

LIGHTSHIPS (WAL)

Notes
Total 31, of which 30 are active. 24 are on Station assignments and six are relief lightships. One was decommissioned and placed in storage in 1959. Overall length: 97 to 149 feet. Eight decommissioned lightships were sold in 1955-56. WAL 511 was sold in 1959. WAL 505 sank after collision in 1960.
WAL 534 (*Nantucket*) is to be re-engined in the 1960 Fiscal Year.

UNION OF SOVIET SOCIALIST REPUBLICS

Administration

The control of all Soviet armed forces, unified under a single Defence Ministry on 26 Feb. 1946, was divided on 25 Feb. 1950 when a War Ministry and a new independent Navy Ministry were created. On 15 Mar. 1953 a single Ministry of Defence was reconstituted.

Strength of Soviet Navy

28 cruisers, 150 destroyers, 450 submarines, 250 frigates, 800 minesweepers, 125 patrol vessels, 500 motor torpedo boats, 120 landing craft, 160 fleet auxiliaries.

Soviet Warships

Most ships are of recent construction. Most ships not being refitted are fully manned and operational. Cruisers, destroyers, submarines and many small craft are fitted for minelaying.

Naming of Warships

Cruisers after political leaders and famous admirals or heroes.
Flotilla Leaders after cities and towns.
Destroyers after adjectives.
Frigates after birds and winds.
Minesweepers after weapons and equipment.
Minelayers and *Netlayers* after rivers and lakes.
Gunboats after tribes, etc.
Surveying vessels after astronomical terms.
Depot ships after towns and rivers.
Icebreakers after political leaders and Arctic explorers.

The hull or side numerals, pennant numbers, of warships change periodically, although ap parently the pennant numbers of auxiliary type vessels do not change.

Colour of Warships

Naval vessels: Light grey all over.
Auxiliaries: Painted somewhat darker grey.
Surveying vessels: Black hulls with red waterlines, yellow funnels with black tops.

Naval Personnel

Total: 750,000 officers and men, including river flotillas, training establishments, coast-artillery and marines; and naval air force.
In ships: 275,000 officers and ratings.
In naval air force: 85,000 officers and men.

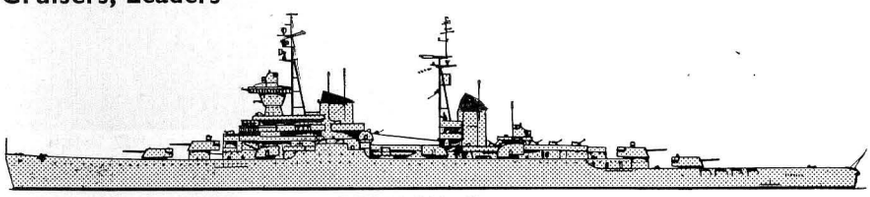
Mercantile Marine

Lloyd's Register of Shipping:
1,455 vessels of 3,155,054 tons *gross*

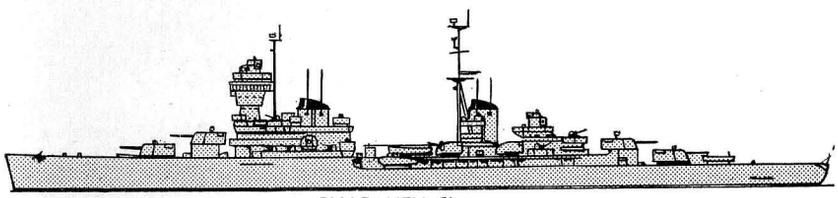
Silhouettes

Scale: 150 ft. = 1 inch.

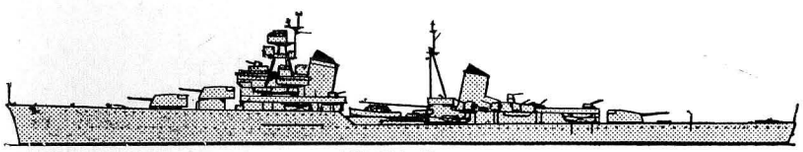
Cruisers, Leaders



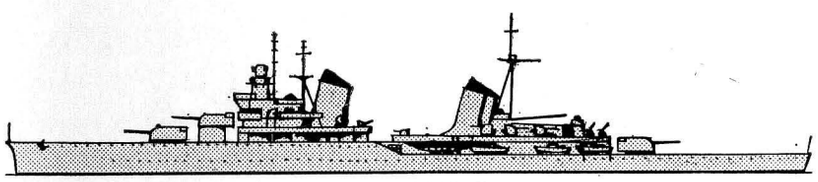
SVERDLOV *Class*



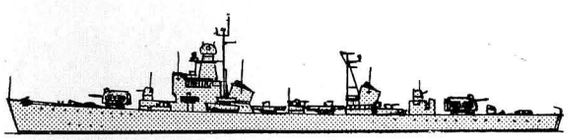
CHAPAYEV *Class*



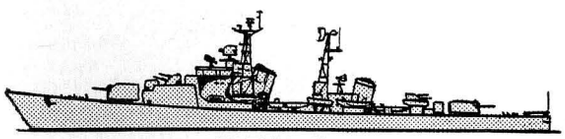
KIROV *Class*



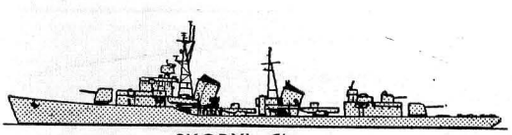
MAKSIM GORKI *Class*



TALLINN *Class*

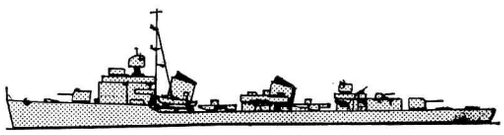


KOTLIN *Class*

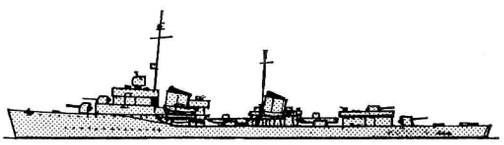


SKORYI *Class*

Destroyers, Frigates



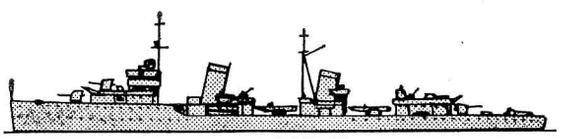
OTLICHNYI *Class*



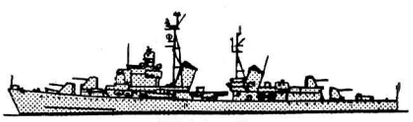
SILNYI *Class*



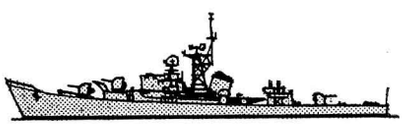
GROMKI *Class*



LENINGRAD *Class*



KOLA *Class*



Later RIGA *Class*



RIGA *Class*

CRUISERS



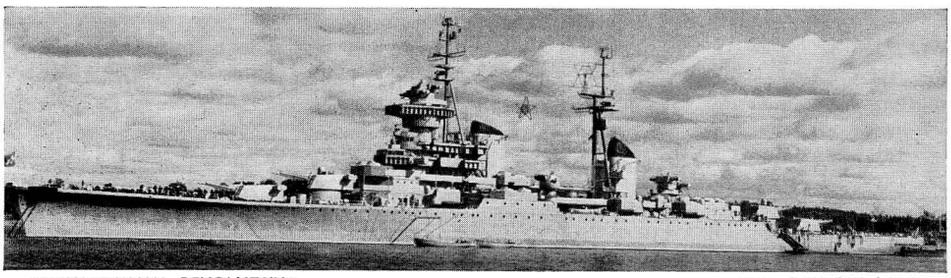
ZDHANOV 1957, *Skyfotos*

17 "Sverdlov" Class

ADMIRAL LAZAREV	FE
ADMIRAL NAKHIMOV	BS
ADMIRAL SENJAVIN	FE
ADMIRAL USHAKOV	B
ALEKSANDR NEVSKII	A
ALEKSANDR SUVOROV	FE
DMITRI DONSKOI	FE
DMITRI POZHARSKIY	FE
DZERZHINSKI	BS
KOSMA MININ	FE
MIKHAIL KUTUSOV	BS
OKTYABRSKAYA REVOLUTSIYA (ex-*Molotovsk*)	A
ORDZHONIKIDZE	B
PETROPAVLOVSK	FE
SVERDLOV	B
VARYAG	FE
ZHDANOV	B

A: 2 with names+No. 12 and No. 24+1 building. ARCTIC
B: 4 with names+2 building. BALTIC
BS: 3 with names+2 building. BLACK SEA
FE: 8 with names+1 building. FAR EAST

Displacement:	15,450 tons *standard* (19,200 tons *full load*)
Dimensions:	Length: 656 (*pp.*), 689 (*o.a.*) feet. Beam: 70 feet. Draught: 16 (*mean*), 24½ (*max.*) feet
Guns:	12—6 inch in four triple turrets (calibre actually slightly less than 6 inch), 12—3·9 inch in six twin mountings, 32—37 mm. AA.
Tubes:	10—21 inch (quintuple mountings) none in *Oktyabrskaya Revolutsiya*.
Mines:	140 to 240 (fitted for minelaying Mine stowage on second deck)
Armour:	Deep and thick side belts from fore to after turret, 4"+; forward and aft 1½" to 2"; turret faces 5"; C.T. 6"; decks 1" to 2" and 2" to 3".
Machinery:	Geared turbines. 2 shafts. S.H.P.: 130,000=34·5 kts.
Boilers:	6
Oil fuel:	4,000 tons
Range:	5,000 miles at 20 kts.
Complement:	1,050



OKTYABRSKAYA REVOLUTSIYA Sept. 1958, *Ossi Janson*

General Notes

Seventeen of the originally planned 24 ships of this class have been launched since 1951 and were operational by December 1960. Seven are incomplete. There are two slightly different types of "Sverdlov" class cruisers. The *Sverdlov* and others have the 37 mm. AA. guns near the fore-funnel one deck higher than in later cruisers. Some other names reported (*Askold, Bayan, Oleg, Petr Veliky, Rurik* and *Voikov*) and the following new names are not confirmed: *Bogatyr, Mikojan, Svietlana*. The ship first named *Molotovsk* was renamed *Oktyabrszkaya Revolutsiya* in 1957.

Appearance Notes.

The *Sverdlov*, *Ordzhonikidze* and *Zhdanov* have their anti-aircraft bridge near the fore funnel one deck higher than in other ships. The fore funnel is more enclosed in *Ordzhonikidze*. *Oktyabrskaya Revolutsiya* no longer has torpedo tubes.

Constructional Notes

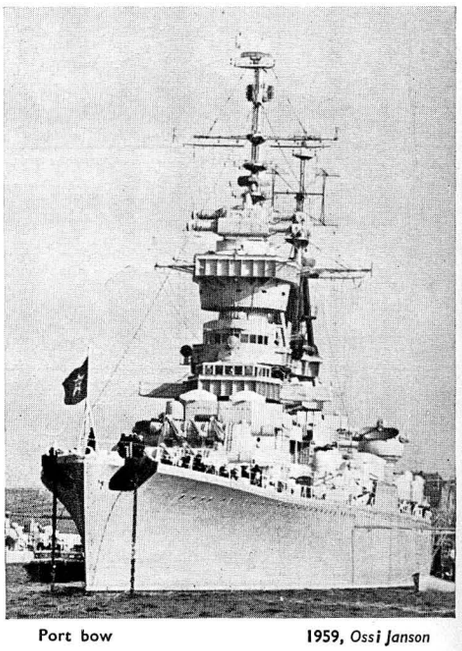
These ships were originally designed for a displacement of 12,800 tons *standard* and 17,000 tons *full load*.

It is reported that the "Sverdlov" class may be limited to 17 units. It is also reported that "Sverdlov" class cruiser construction is now suspended with 7 units remaining partially **completed: these may be completed with an advanced armament or with guided missiles. It is further reported that two improved and bigger vessels of the "Sverdlov" type with a beam of 90 feet are on the stocks and that these have been redesigned for provision of guided weapon launchers.**

Two more cruisers are believed to be under construction at Black Sea ports.

Photograph Notes

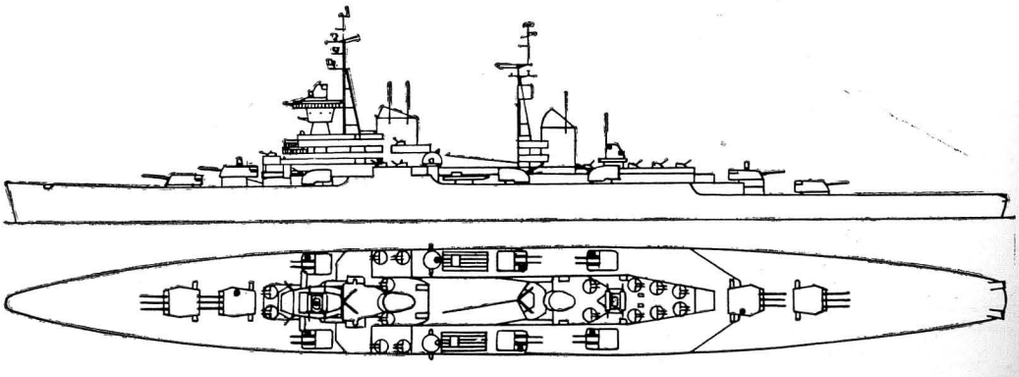
Photographs of *Admiral Ushakov, Aleksandr Suvorov, Ordzhonikidze* and *Sverdlov* in the 1953-54 to 1957-58 editions, and of *Oktyabrskaya Revolutsiya* (as *Molotovsk*) in the 1957-58 to 1959-60 editions (also large photograph showing midship details).



Port bow 1959, *Ossi Janson*

Guided Missile Notes

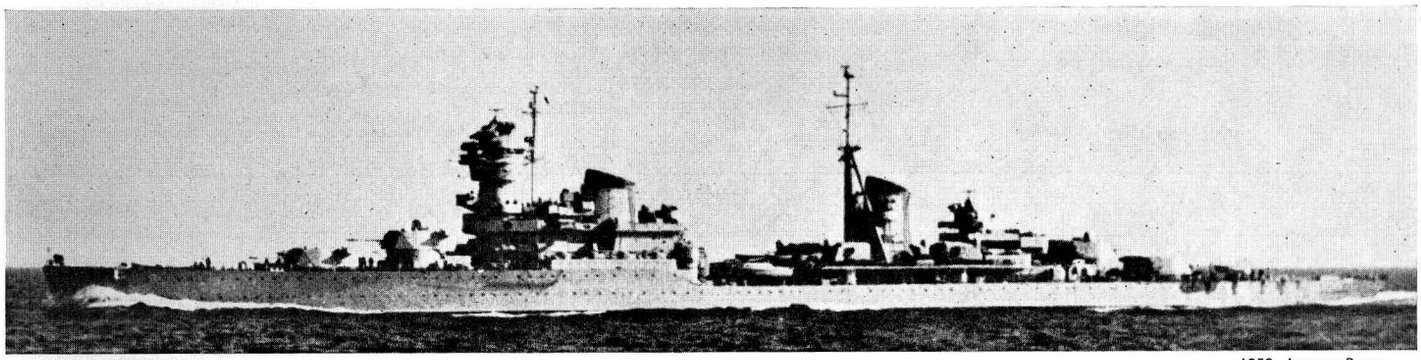
Four modified "Sverdlov" class cruisers of 13,500 tons light displacement were reported to be under construction at Leningrad early in 1959. They are believed to have been designed for guided missiles. A starboard elevation and plan drawing of this modified "Sverdlov" class appears in the 1959-60 edition.



Notes to Drawing

Port elevation and plan of "Sverdlov" class. Scale: 128 feet=1 inch.

Cruisers—*continued*



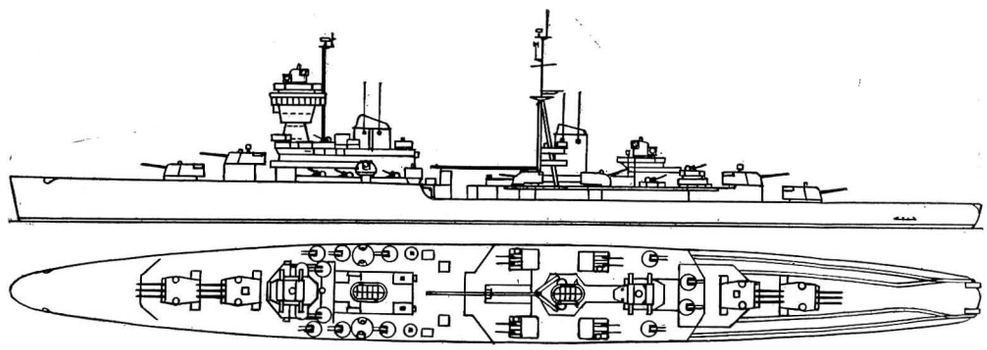
ZHELEZNYAKOV

1959, *Antonov Rogov*

5 "Chapaev" Class

CHAPAEV	A	**FRUNSE**	BS
CHKALOV	B	**KUIBYSHEV**	BS
		ZHELEZNYAKOV	A

Displacement:	11,500 tons *standard* (15,000 ton *full load*)
Dimensions:	Length: 656 feet. Beam: 64⅔ feet. Draught: 21 feet
Guns:	12—6 inch in four triple turrets, 8—4 inch AA., 28—37 mm. AA. (twin mounts)
Mines:	100 to 200
Machinery:	Geared turbines with diesels for cruising speeds. 2 shafts. S.H.P.: 113,000=35 kts.
Boilers:	6
Oil fuel:	3,500 tons
Radius:	4,500 miles at 20 kts.
Complement:	834



General Notes

Laid down in 1939-40. Launched during 1941-47. All work on these ships was stopped during the war, but was resumed in 1946-47. Completed in 1948-50. Catapults were removed from all ships of this type. *Frunse* was built by Marti Yard, Nikolayev, laid down 1939, launched 1941 and completed 1950.

Gunnery Notes

Turret guns are in separate sleeves allowing independent elevation. Elevation at least 50 degrees.

Appearance Notes

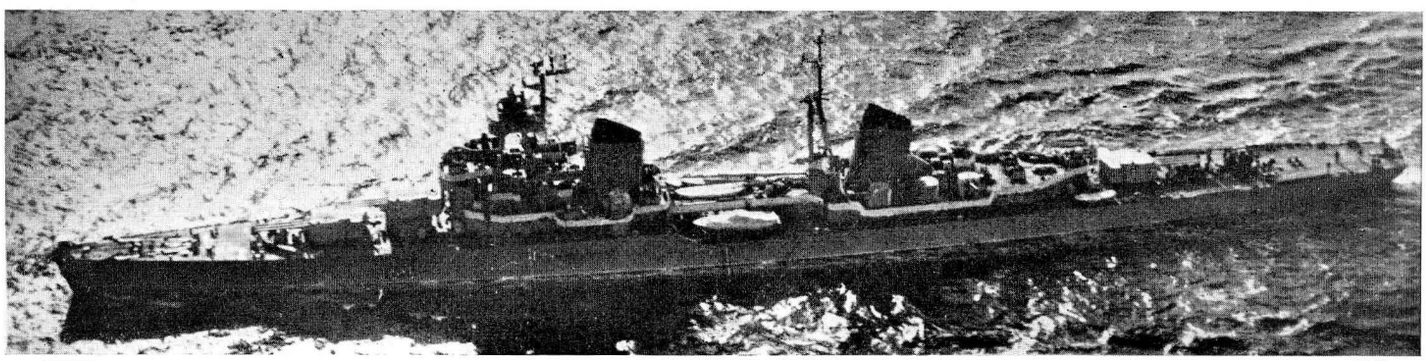
These cruisers have heavy director on control tower, pole foremast and a tripod mainmast forward of the after funnel. Vertical funnels. All this class have higher freeboard and longer funnels than ships of the "Kirov" class. They resemble the "Sverdlov" class in several respects, but the forecastle deck breaks abreast the forefunnel instead of at the quarter deck.

Notes to Drawing

Port elevation and plan of "Chapaev" class. Drawn in 1957. Scale: 128 feet=1 inch.

Photograph Notes

A port quarter view of *Zheleznyakov* appears in the 1952-53 to 1957-58 editions, and a starboard quarter view of *Chapaev* in the 1953-54 to 1959-60 editions.



KIROV

1959

2 "Kirov" and 4 "Maksim Gorki" Types

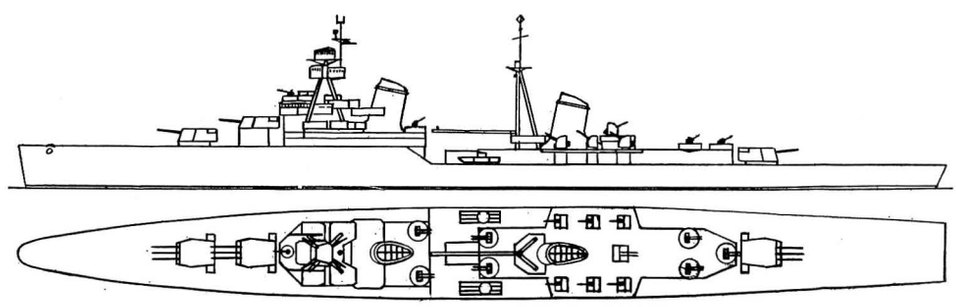
Kirov Type

KIROV	B	**MOLOTOV**	BS

Maksim Gorki Type

KAGANOVICH	FE	**MAKSIM GORKI**	B
KALININ	FE	**VOROSHILOV**	BS

Displacement:	8,800 tons *standard* (11,500 tons *full load*)
Dimensions:	Length: 613½ (*pp.*), 626¾ (*o.a.*) feet Beam: 59 feet. Draught: 17 (*mean*), 20 (*max.*) feet
Guns:	9—7·1 inch, 8—4 inch AA., 16—37 mm. AA., 6—13 mm. AA.
Tubes:	6—21 inch (in triple deck mountings)
Mines:	60 to 90
Armour:	3" side, 2" deck, 4" gunhouses, 4 C.T.
Machinery:	Geared turbines with diesels for cruising speeds. 2 shafts. S.H.P.: 110,000=35 kts. (actually less)
Boilers:	6 Yarrow or Normand
Oil fuel:	2,500 tons
Radius:	3,500 miles at 19 kts.
Complement:	734



Name	*Builder*	*Machinery*	*Laid down*	*Launched*	*Completed*
Kaganovitch	Komsomolsk Shipyards	Tosi, Taranto	1939	1945	1946
Kalinin			1939	1945	1947
Kirov	Putilov D.Y.		1934	1 Dec. 1936	26 Sep. 1938
Maksim Gorki			1935	Dec. 1937	1940
Molotov	Marti Yard, Nikolaye		1935	23 Feb. 1939	1944
Voroshilov			1936	1940	1945

General Notes

Design and technical direction of construction said to have been furnished by Ansaldo. One more ship named *Ordzhonikidze* under construction at Nikolayev, was wrecked by high explosives before the enemy occupied that port in August, 1941. At least one cruiser of this type (*Maksim Gorki*) was badly damaged in the Baltic in August 1941. *Kaganovich* and *Kalinin* are at Vladivostock. *Kirov* and *Maksim Gorki* are in the Baltic. *Molotov* and *Voroshilov* are in the Black Sea.

Appearance Notes

First Group: *Kirov* and *Molotov* had very long forecastle, heavy tripod mast stepped abaft forebridge, light tripod stepped abaft second funnel, three turrets, very large funnels. Second Group: Remaining vessels had high director tower on forebridge, light tripod foremast abaft bridges, heavy tripod, mainmast stepped abaft second funnel, three turrets, smaller funnels, and generally lighter appearance than those of "Kirov" group.

Gunnery Notes

Triple guns are mounted in one sleeve and are thus incapable of separate elevation Maximum observed elevation approximately 40 degrees.

Transfer Notes

Kaganovitch is reported to have been lent or leased by Russia to the Chinese Communist Navy.

Photograph Notes

A starboard bow view of *Kirov* appears in the 1957-58 edition. Her No. is now 961.

Notes to Drawing

Port elevation and plan of *Kirov* after conversion. Drawn in 1957. Scale: 128 feet=1 inch.

Recent Disposals

The very old Russian cruisers *Krasnyi Kavkaz* (ex-*Admiral Lazarev*) and *Krasnyi Krym* (ex-*Profintern*, ex-*Svietlana*) are hulks. (Details and photograph in 1957-58 and earlier editions.) Her No. is now 961.

The old ex-German light cruiser *Admiral Makarov* (ex-*Nürnberg*), latterly used only as a training ship, is obsolete and of little remaining military value. She is worn out, and is to be scrapped in the near future.

The old ex-Italian light cruiser *Kertch* (ex-*Stalingrad*, ex-*Z 15*, ex-*Emanuele Filiberto Duca D'Aosta*) of similar vintage, is reported to have been lent or leased by Russia to the Roumanian Navy. See photographs, full particulars, plan and elevation drawings and silhouettes of both these cruisers in the 1959-60 and earlier editions.

GUIDED MISSILE DESTROYERS

6 "Kildin" Class
Modified "Kotlin" Type

KILDIN I, II, III, IV, V, VI

Displacement:	3,000 tons *standard* (see *Notes*)
Dimensions:	423¼ × 43½ × 15½ feet
Guided missiles:	Launcher aft
Guns:	2—3·9 inch d.p. in twin turret forward; 12—57 mm. AA. in three quadruple mountings
Machinery:	Geared turbines. 2 shafts. S.H.P.: 80,000=38 kts.
Boilers:	3

Notes

Large destroyers of the "Kotlin" type reported to have been redesigned as guided missile destroyers with launcher installed in place of the after gun mountings. Identified by NATO designation as the "Kildin" class. Displacement is also reported as 2,600 tons. At least one of the completed units are reported to be in the Baltic Fleet, with others building.

DESTROYERS



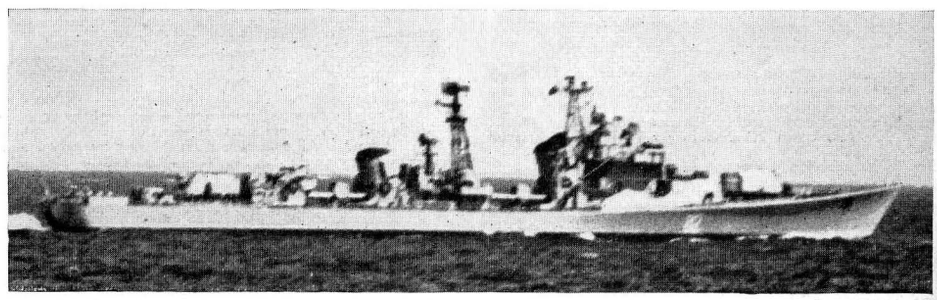
KOTLIN Class No. 86 1957

40 "Kotlin" Class
Flushdecked Fleet Type

BESSLEDNYI **VDOKHNOVENNYII**
BURLIVYI **VOZMUSHCHENNY**

No. 32 No. 77 No. 78 No. 82 No .86 and others

Displacement:	2,850 tons *standard* (3,885 tons *full load*)
Dimensions:	425 (*o.a.*) × 41½ × 16 (*max.*) feet
Guns:	4—3·9 inch d.p. in two twin turrets; 16—57 mm. AA., in four quadruple mountings
Tubes:	10—21 inch
A/S Weapons:	6 side thrown depth charge projectors
Mines:	80
Machinery	Geared turbines. 2 shafts. S.H.P: 80,000=38 kts.
Boilers:	4
Complement:	285



No. 82 *Added* 1958

General Notes

Improved versions of the "Tallinn" type with similar hulls but differing features. This new class of fast anti-aircraft and anti-submarine destroyers is apparently in mass production with 22 ships already built. No. 32 and No. 86 have been observed in the Baltic. No. 78 is reported to have been sighted in the Red Sea in 1957. *Besslednyi* and *Burlivyi* are believed to have been transferred from the Black Sea Fleet to the Pacific Fleet in 1957. *Vdokhnovennyi* and *Vozmushchennyi* are in the Pacific Fleet.

Anti-Submarine Notes

It is reported that the six depth charge throwers are mounted on rotating platforms at the stern.

Class Notes

The "Kotlin" class are also known as the "DB" type.

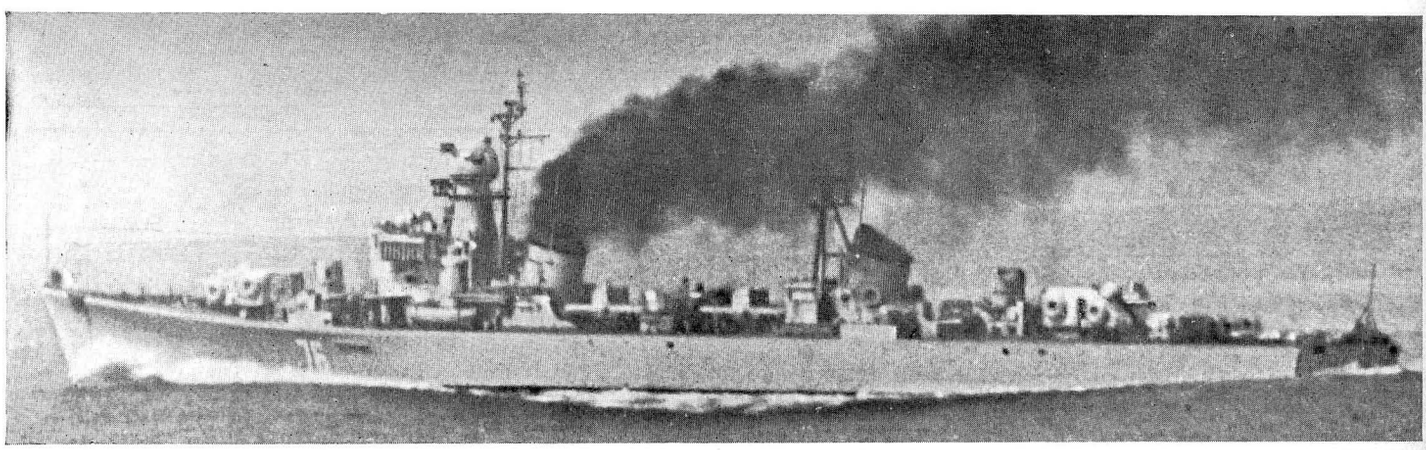
1 "Novik" Class
New Fleet Type

NOVIK

Displacement:	2,500 tons *standard* (3,500 tons *full load*) see *Notes*
Dimensions:	403½ × 39½ × 13¾ feet
Guns:	4—3·9 inch semi-automatic AA. (two twin mountings). 8—57 mm. AA. (four twin mountings)
Tubes:	10—21 inch (two quintuple mountings)
A/S weapons:	Depth charge throwers
Mines:	70
Machinery:	Geared turbines. 2 shafts. S.H.P.: 100,000=40 kts. (see *Notes*)
Boilers:	4 (see *Notes*)
Oil fuel:	600 tons
Radius:	3,000 miles at 20 kts.
Complement:	340

Notes

A new type of multi-purpose anti-aircraft, anti-submarine, and minelaying destroyer for fleet escort duties. Displacement also reported as 2,100 tons *standard* and 3,000 tons *full load*, with geared turbines of 80,000 shaft horse power and three boilers equal to a speed of 38 kts. The new destroyers are being built in Baltic and White Sea shipyards.



TALLINN Type No. 76 1956

4 "Tallinn" Class
Flushdecked Leader Type

No. 75 No. 76 No. 79 No. 95

Displacement:	3,500 tons *standard* (4,500 tons *full load*)
Dimensions:	433 (*o.a.*) × 44 × 15½ feet
Guns:	4—3·9 inch in twin turrets, 12—37 mm. AA
Tubes:	10—21 inch (quintupled)
A/S weapons:	2 rocket launchers
Mines:	100
Machinery:	Geared turbines. 2 shafts. S.H.P.: 100,000=38 kts
Complement:	300

General Notes

Displacement also reported as 3,100 tons, with geared turbines of 80,000 shaft horse power.

Gunnery Notes

The 3·9 inch guns in twin turrets are similar to those mounted as secondary armament in the "Sverdlov" class cruisers including firing directors and control position, fully stabilised, forming a part of the bridge and mast. This was the first time such an arrangement had been contrived in a ship of destroyer size, an experiment in top weight.

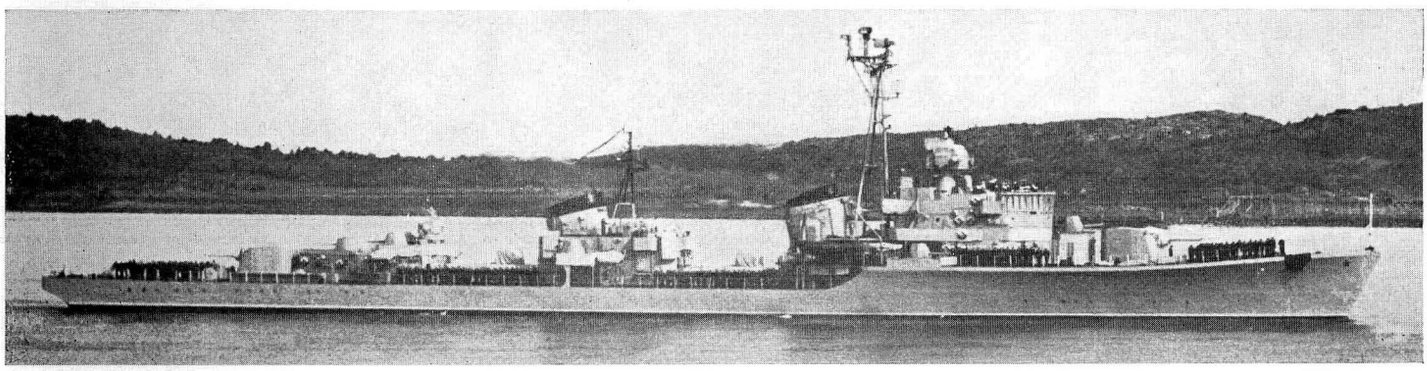
Class Noyes

The "Tallinn" class is also known as the "DA" type.

Destroyers—*continued*



SVOBODNI (No. is now 787 instead of 14) 1957, *Skyfotos*



OTVETSVENNYI 1957, *Photo*

70 "Skoryi" Class

BDITYELNYI
BESSMENNYI
BESSPOKOINYI
BESSTRASHNYI
BEZUKORIZN ENNYI
BEZSHUMNYI
BODRI
BOIKI
BYSTRYI

and **3 others** with B names in the Black Sea.

OBRAZOVANNY
OGNENNY
OKHOTLIVY
OSMYSLENNYI
OSNOVATELNY
OSTERVENELYI
OSTOROZHNYI
OSTROGLAZY
OTCHAIANNY
OTRETOVENNYI
OTVETSVENNYI
OZHESTOCHONNYI
OZHIVLENNYI
OZLOBLIONNY

and **2 others** with O names in the Arctic.

SERDITYI
SEREZNYI
SMELYI
SMOTRYASHCHY
SMYSHLYONYI
SOKRUSHYTELNYI
SOLIDNYI
SOOBRAZITELNYI
SOVERSHENNYI
SPOSOBNYI
STATNYI
STEPENNYI
STOIKI
STREMITELNYI
SUROVYI
SVOBODNI

and **2 others** with S names in the Baltic.

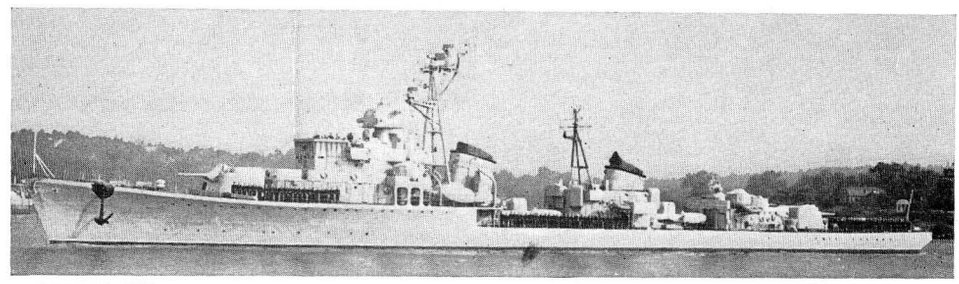
VAZHNYI
VDUMCHIVYI
VEDUSHCHII
VERNYI
VIDNYI
VIKHREVOI
VNEZAPNYI
VNIMATELNYI
VOLEVOI
VRAZUMITELNYI

and **14 others** with V names in the Far East.

Displacement:	2,600 tons *standard* (3,500 tons *full load*)
Dimensions:	393¾ (*pp.*), 420 (*o.a.*) × 41 × 13½ feet
Guns:	4—5·1 inch (twin), 2—3 inch AA., 7—37 mm. AA. (Some have 8—37 mm. AA. in twin mounts)
Tubes:	10—21 inch
A/S weapons:	4 D.C.T.
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 70,000=38 kts.
Boilers:	3
Radius:	4,000 miles at 15 kts.
Complement:	250

General Notes

There were to have been 85 destroyers of this class, but their construction beyond 70 units is reported to have been discontinued in favour of later types of destroyers. There is now a tactical "700" series. Numbers observed include 787 and 789.



OTCHAIANNY Sept. 1958, *Ossi Janson*



OZJESTOTJONNYI 1957 *Photo*

Gunnery Notes

They are equipped with modern target finding and gun sighting radar for the 5·1 inch guns in two twin turrets, and they also carry depth charge throwers.

Appearance Notes

There are three different types in this class, the anti-aircraft guns varying with twin and single mountings; and two types of foremast, one vertical with all scanners on top and the other with one scanner on top and one on a platform half way.

Photograph Notes

Photographs of *Stepennyi*, *Sposobnyi* and *Surovyi* appear in the 1954-55 to 1957-58 editions, and a large broadside view of *Smotryashchy* in the 1957-58 to 1959-60 editions.

Nomenclature Notes

The names of "Skoryi" class destoyers are apparently based on their fleet assignment. Those in the Black Sea have names beginning with B, those in the Northern Fleet have names beginning with O, those in the Baltic have names beginning with S and those in the Pacific Fleet have names beginning with V. This is the only class to which names appear to be applied to indicate fleet designation. Whether the name is altered with a change in fleet assignment is not clear, but it seems that this might be the case when the change is permanent.

Transfer Notes

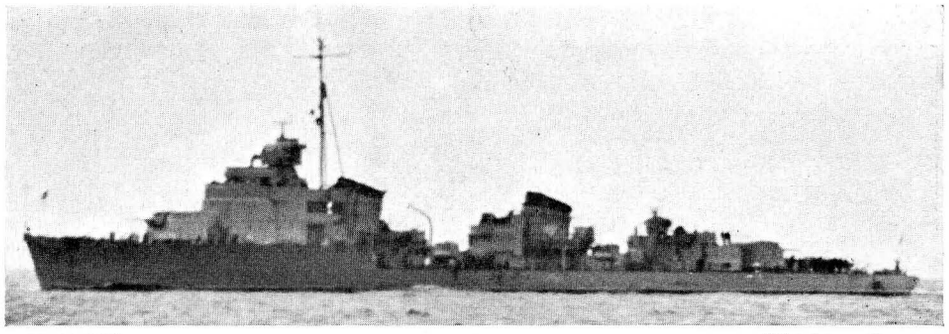
Of this class *Skoryi* and *Smetlivyi* were transferred to the Polish Navy in 1957-58. Two sister ships were transferred to the Egyptian Navy in 1956. Four more units are reported to have been transferred to the Indonesian Navy in 1959.

Destroyers—*continued*

9 "Otlichnyi" Class

OBRAZTSOVYI	B	**OSMOTRITELNYI**	A
OCHETLIVI	A	**OTLICHNYI**	B
ODARENNI	B	**OTVAZHNYI**	B
OGNEVOI	BS	**OZORNOI**	BS
OPASNYI	BS	**OZARNYI**	

Displacement:	1,800 tons *standard* (2,650 tons *full load*)
Dimensions:	387½ × 36¾ × 12½ feet
Guns:	4—5·1 inch, 55 cal. (twin mounts), 2—3 inch AA., 6—37 mm. AA.
Tubes:	8—21 inch
A/S weapons:	4 D.C.T.
Mines:	60 to 80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=38 kts.
Boilers:	3
Oil fuel:	370 tons
Complement:	212



OTLICHNYI 1959, *Antonov Rogov*

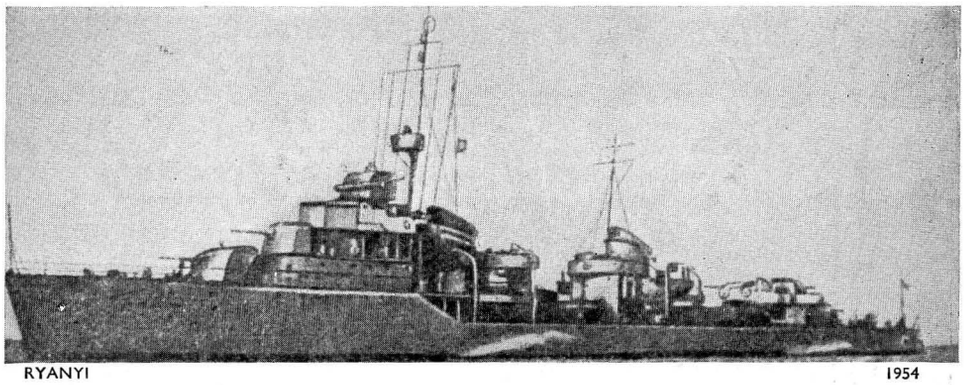
Notes

There are only nine destroyers of this class, although ten names have been reported. They are a development of the "S" and "R" classes. The 5·1 inch guns are disposed in one twin mounting before the bridge and one aft. Five other names previously reported of this class, *Ognenny*, *Osmyslennyi*, *Ostervenelyi*, *Otretovennyi* and *Ozhestochonnyi* are now believed to be borne by "Skoryi" class destroyers in the Arctic. *Osmotritelnyi* means "Cautious" or "Circumspect," *Osmyslennyi* means "Sensible," and *Ostervenelyi* means "Frenzied." All names are adjectives. A in Arctic, B in Baltic, BS in Black Sea.

8 "Ryanyi" Class

RASTOROPNYI	**RESHITELNYI**
RAZUMNYI	**RESKI**
RAZYARYONNYI	**RESVI**
RAZYASHCHYI	**RETIVI**
REDKI	**REVOSTNYI**
REKORDNYI	**RYANYI**

Displacement:	1,700 tons *standard* (2,500 tons *full load*)
Dimensions:	377 × 36¾ × 14⅜ feet
Guns:	4—5·1 inch, 55 cal., 2—3 inch, 3—37 mm. AA., 4—13 mm. AA.
Tubes:	6—21 inch (tripled)
Mines:	80
Machinery:	Geared turbines. 2 shafts. S.H.P.: 60,000=39 kts.
Boilers:	3
Complement:	240



RYANYI 1954

General Notes

These "R" boats, launched in 1939-44, are of a later type than the "Gromki" and "Silnyi" classes. Nearly all are in the Far East. *Razumnyi* and *Razvaryonnyi* are in the Arctic. "Redki" means "Rare."

Appearance Notes

Some of these vessels, including *Rastoropnyi*, *Razumnyi* and *Razyaryonnyi*, are like the "Gromki" class with one funnel; others, including *Ryanyi*, are like the "Silnyi" class with two funnels.

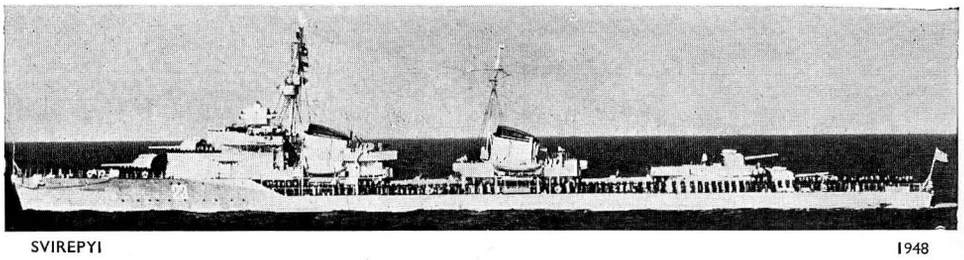
Transfer Notes

Four of this class have been transferred to the Chinese Communist Navy, but the names have not been reported.

8 "Silnyi" Class

SILNYI	**STROGI**
SLAVNYI	**STROINYI**
STOROZHEVOI	**SVIREPYI**
STRASHNYI	**VICE ADMIRAL DROZD** (ex-*Stoiki*)

Displacement:	1,686 tons *standard* (2,150 tons *full load*)
Dimensions:	367 (*pp.*), 371 (*o.a.*) × 33 × 14 feet
Guns:	4—5·1 inch, 2—3 inch, 50 cal. AA., 4—37 mm. AA., 4—20 mm. AA.
Tubes:	6—21 inch
Mines:	Stowage for 80 mines reported
Machinery:	Geared turbines. 2 shafts. S.H.P.: 48,000=36 kts.
Boilers:	3 of 3-drum type
Oil fuel:	500 tons
Complement:	240



SVIREPYI 1948

Notes

All launched in 1938-40. Improved "Gordyi" class. The armament of *Storozhevoi* has been altered, with one twin turret forward, and she differs in appearance from other vessels of class. All in the Baltic. War losses: *Serdityi*, *Skoryi*, *Smishlyonyi*, *Smelyi*.

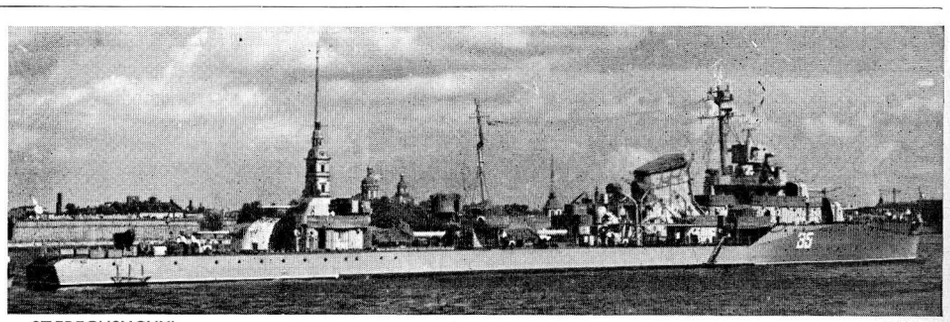
Vnimatelnyi Class Notes

Of the four "Vnimatelnyi" class destroyers previously listed, the continued existence of *Vlastnyi*, *Vnushitelnyi* and *Vynoslivyi* is doubtful, and the new name of ex-*Vnimatelnyi* has not been reported (photograph of *Vnushitelnyi* in the 1957-58 to 1959-60 editions).

5 "Gromki" Class

GREMYASHCHYI	**GROZYASHCHYI**
GROMKI	**STEREGUSHCHYI**
GROZNYI	

Displacement:	1,657 tons *standard* (2,150 tons *full load*)
Dimensions:	357¾ (*pp.*), 377 (*o.a.*) × 33½ × 13 feet
Guns:	4—5·1 inch, 2—3 inch, 50 cal. AA., 4—37 mm. AA., 8 D.C.T
Tubes:	6—21 inch (tripled)
Mines:	100
Machinery:	Geared turbines of Tosi design. shafts. S.H.P.: 50,000=36 kts.
Boilers:	3 of 3-drum type
Oil fuel:	500 tons
Complement:	240



STEREGUSHCHYI 1959

Notes

All launched in 1936-41. Fitted for minelaying. Better sea boats than *Leningrad* class, having less top weight. They are understood to be of Odero-Terni-Orlando design. *Gromki* now has a tripod foremast. *Gremyashchyi*, *Gromki* and *Groznyi* are in the Arctic, *Grozyashchyi* and *Steregushchyi* are in the Baltic. It is reported that *Bdityelnyi*, *Bodri* and *Boiki* are being scrapped, and that most or all of the remainder of this class will be scrapped in the near future.

War losses: *Gnevnyi*, *Gordyi*, *Grozovoi*, *Gromyashchi*, *Bezposhchadny*, *Bezuprechnyi*, *Bystryi*, *Bezshumnyi*, *Bezstrashnyi*, *Smetlivyi*, *Stremitelnyi*, *Sokrushytelnyi*. Two war losses, *Bdityelnyi* and *Steregushchyi*, were salved and put in service.

3 "Leningrad" Class

Rated as Flotilla Leaders

BAKU	A	**LENINGRAD**	B
		MINSK	B

Displacement:	2,225 tons *standard* (2,582 tons *full load*)
Dimensions:	400 (*pp.*), 418½ (*o.a.*) × 38½ × 13 feet
Guns:	4—5·1 inch, 55 cal., 2—3 inch, 50 cal. AA., 5—37 mm. AA. 4 D.C.T.
Tubes:	8—21 inch (quadrupled)
Machinery:	Geared turbines. 3 shafts. S.H.P.: 70,000=38 kts. (Trials of *Leningrad*, light, 39·3 kts.)
Boilers:	3, of 3-drum type
Oil fuel:	600 tons

General Notes

Built during 1933-1941. *Leningrad* was launched in 1935. Fitted for minelaying. Formerly rated as "Lidery" (flotilla leaders). These ships resembled the contemporary French *Contretorpilleurs*, and the construction of earlier units was supervised by French technical experts. The 5·1 inch gun abaft the bridge has been removed. *Baku* is in the White Sea, *Leningrad* and *Minsk* are in the Baltic. A photograph of *Minsk* appears in the 1948-49 to 1959-60 editions. War losses: *Moskva*, *Kharkov*.

It is reported that the survivors of this class will be scrapped in the near future.

Recent Disposals

The "T" boats of the "Leningrad" class, *Tbilissi*, *Tomsk*, *Tula* and *Tver*, in the Far East, are reported to be for disposal. The hulls of *Batum*, *Ochakov* and *Perekop* were lying at Batum at end of 1941 and they were reported to have been completed in 1946-47, but there is no confirmation of this.

The experimental destroyer *Opytnyi* (ex-*Sergei Ordzhonikidze*) has been scrapped.

The large ex-Japanese destroyer *Harutsuki*, the large ex-German destroyer *Provornyi* (ex-*Z* 33), the smaller ex-German destroyer *Primernyi* (ex-*T* 33), the ex-Italian destroyers *Artigliere* (ex-*Z* 12), and *Fucliere* (ex-*Z* 20), the old ex-German destroyers *Prochnyi* (ex-Karl Galster, *Z* 20), *Pylki* (ex-*Erich Steinbrinck*, *Z* 15) and *Zhorki* (ex-*Friedrich Inn*, *Z* 14) and the old ex-Japanese destroyer *Hibiki*, all taken over by the Russian Navy after the Second World War, are now worn out and are of little or no military value; they are used merely as training ships or are hulks.

The very old Russian destroyer *Nezamoshnik*, sole survivor of the "Petrovski" class, and the very old destroyers *Karl Liebknecht*, *Kribyshev*, *Stalin*, *Uritski* and *Voikov* of the "*Uritski*" class are now worn out; they are being scrapped or used for training hulks.

FRIGATES

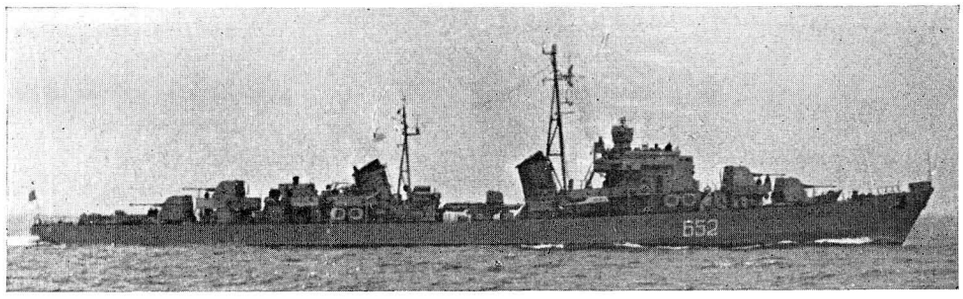
30 " Kola " Class
Flushdecked Destroyer Escort Type

DOBLESTNY	**DZERSKI**	**No. 622**
DOSTOINI	**DZGUTSHI**	**No. 632**
DRUSHNY	**DZIVUTSHI**	**No. 639**
DSKARKI	**DZOSTKI**	**No. 652**

Displacement:	1,500 tons *standard*, 2,000 tons *full load*
Dimensions:	295 (*pp.*), 305 (*o.a.*) × 32¾ × 10 (*mean*), 11 (*max.*) feet
Guns:	4—3·9 inch AA. (single mounts), 4—37 mm. AA.
Tubes:	3—21 inch
A/S weapons:	Depth charges and racks
Machinery:	Geared turbines. 2 shafts. S.H.P.: 30,000=31 kts.
Boilers:	2
Complement:	190

General Notes

In design this new class of flushdecked destroyer escort appears to be a combination of that of the German " Elbing " type torpedo boat destroyers, with a similar hull form, and of the older Russian " Birds " class frigates, (see below). The four 3·9 inch guns, which are similar to the main armament in the " Birds " class frigates are mounted as in the " Gordyi " class destroyers. It is reported that about 20 units of this class are in the Baltic and four in the Far East.



652 *Added* 1957

Nomenclature Notes

The names above are not confirmed. The last five names are also rendered *Zharki* (*Dskarki*), *Zherski* (*Dzerski*), *Zhgutsh* (*Dzgutshi*), *Zhivutshi* (*Dzivutshi*) and *Zhostki* (*Dzostki*). The numbers of those in the Far East are reported as 622, 632, 639 and 652.

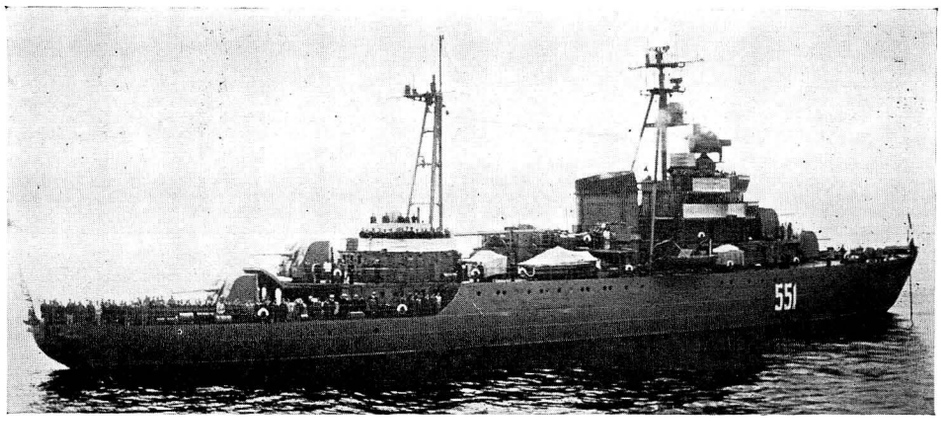
Oceangoing Gunboat Type
Cruising Ships

No. 551

Displacement:	*circa* 2,000 tons *standard*
Dimensions:	325 × 40 × 14 feet
Guns:	4—3·9 inch; 8—37 mm. AA.
Mines:	50
Machinery:	Diesel. Speed about 20 kts. *max.*
Complement:	200

Notes

Very sturdy oceangoing cruising vessels of the frigate or large sloop or gunboat type equipped for minelaying and adapted for employment as gunnery firing ships and officers' training ships. These hybrid vessels are fitted with directors similar to those in the " Riga " class frigates. This type is also reported to have a displacement of 2,500 tons standard with an overall length of 407 feet and a main armament of our 4·1 inch guns.



No. 551 1959

36 " Riga " Class.

No. 50 **No. 324** **No. 642** **No. 651**
No. 54 **No. 645** **No. 656**
No. 55 **and others**

Displacement:	1,200 tons *standard* (1,600 tons *full load*)
Dimensions:	278¾ (*pp.*), 295 (*o.a.*) × 31½ × 9½ (*mean*), 11 (*max.*) feet
Guns:	3—3·9 inch dual purpose single mounts, 3—37 mm. AA.
Tubes:	3—21 inch
A/S weapons:	4 depth charge projectors
Mines:	Fitted with mine rails
Machinery:	Geared turbines. 2 shafts. S.H.P. 25,000=28 kts
Boilers:	2

General Notes

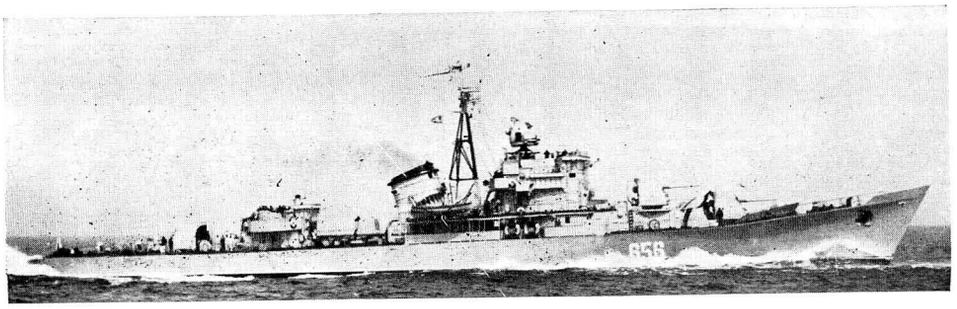
A lighter and less heavily armed but improved version of the " Kola " class. Only numbers above reported.

Appearance Notes

The class is divided into two types with different schemes of masting construction, see photographs.



Later " Riga " Class 1956, *Sergei Romanov*



" Riga " Class 1956, *Sergei Romanov*

3 Improved " Birds " Class

ALBATROS **CHAIKA** **KRECHET**

Displacement:	920 tons *standard* 1,300 tons *full load*)
Dimensions:	278¾ × 27½ × 9¾ feet
Guns:	3—4 inch, 4—37 mm. AA., 8 M.G.
Tubes:	3—17·7 inch
Machinery:	Geared turbines. 2 shafts. S.H.P.: 23,000=34 kts.
Boilers:	2
Complement:	92

Notes

Improved " Birds " class. Launched in 1940-49. All in the Black Sea. Names mean *Albatross*, *Seagull* and *Buzzard*.

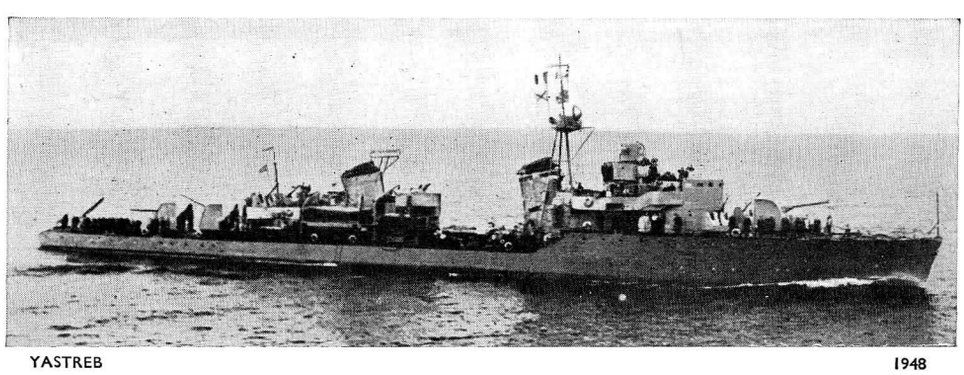
7 " Birds " Class

BERKUT **KONDOR** **OREL**
GRIF **KORSHUN** **VORON**
YASTREB

Displacement:	842 tons *standard* (1,250 tons *full load*)
Dimensions:	275 × 27¼ × 9½ feet
Guns:	3—3·9 inch, 4—37 mm. AA.
Tubes:	3—17·7 inch
Machinery:	Geared turbines. 2 shafts. S.H.P.: 23,000=35 kts.
Boilers:	2
Complement:	98

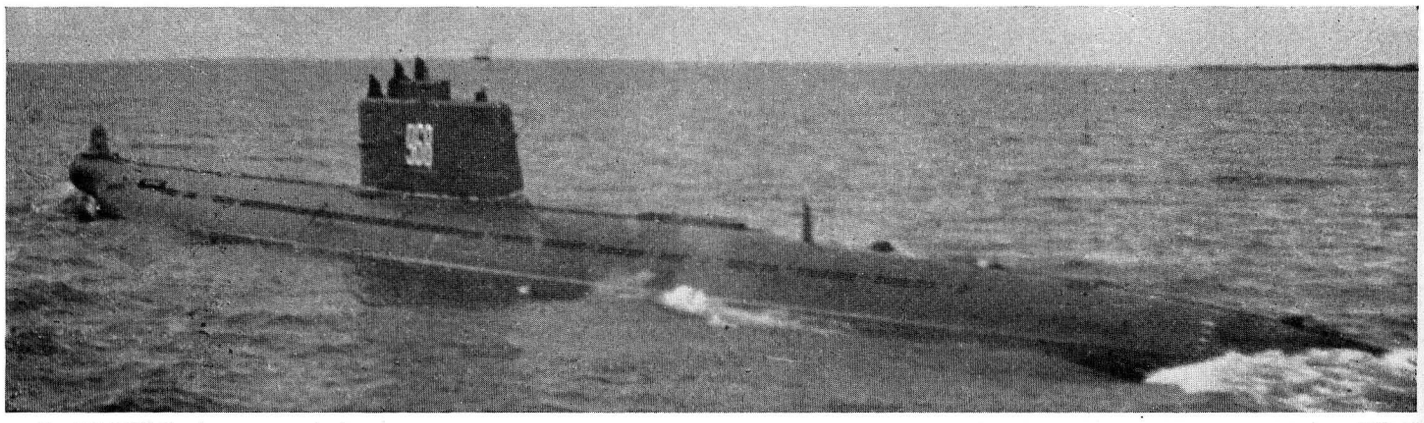
Notes

" Birds " class. All launched in 1939-41. In the Baltic. Names mean *Berkut:* Golden Eagle, *Grif:* Griffin, *Kondor*l Condor, *Korshun:* Kite, *Orel:* Eagle, *Voron:* Raven, *Yastreb:* Hawk. Only *Orel* and *Yastreb* were recently operational.



YASTREB 1948

SUBMARINES *(Podvodnye Lodki)*



No. 958, " Z " Class (port quarter view) 1960

6 Nuclear Powered Type

Displacement:	3,000 tons
Dimensions:	328 × 33 × 20 feet
Machinery:	Nuclear reactors and steam turbines. S.H.P.: 15,000=25 kts. *surface*, 30 kts. *submerged*

Notes

Three nuclear powered submarines are reported to have been completed, with a fourth nearing completion, a fifth in an advanced stage of construction, and a sixth being assemdled. Another report gives one nuclear powered submarine launched, one under construction, and four more in the planning stage.

General Notes

There are now about 450 effective submarines. Over half are of the large or intermediate oceangoing type. Another large type are reported to be armed with guided missiles. More of a medium type are being built. Most are known by numbers; some by names as well.

It is reported that it is intended to build up a four-theatre submarine fleet for operations in the Pacific, in the Baltic, in the Arctic, and in the Black Sea.

Some 50 submarines are under construction in Soviet dock yards. These are reported to include seven different types as follows:

1. Nuclear powered attack type with long range.
2. Nuclear powered radar picket type with high speed.
3. Large nuclear powered type with a very long range.
4. Large guided missile type with a high speed.
5. Ocean going patrol type with a long range.
6. Minelaying type with a high speed.
7. Anti-submarine patrol type with a long range.

6 " G " Class. Guided Missile Type

Displacement:	1,850 tons *standard*, 2,250 tons *surface*, 2,700 tons *submerged*
Dimensions:	310 × 28 × 17 feet
Machinery:	Diesels. Electric motors

Notes

A new class of guided missile submarines having a very large conning tower with hatches for the vertical launching of guided missiles, and conventional diesel prppulsion. It is reported that there are six units of this class, with others building.

10 " F " Class. Large Attack Type

Displacement:	1,960 tons *surface*, 2,280 tons *submerged*
Dimensions:	300 × 26 × 19 feet
Tubes:	8—21 inch (20 torpedoes carried)
Machinery:	Diesels. Electric motors. 3 screws. Speed=20 kts. *surface* and *submerged*

Notes

An improved " Z " class with greater length. Equipped with snort. It is reported that ten units of this class had been launched by Nov. 1959.

4 " Z " Class. Guided Missile Type

Displacement:	2,100 tons *surface*, 2,600 tons *submerged*
Dimensions:	295½ × 28⅔ × 17 feet
Guided Missiles:	2 launchers
Tubes:	8—21 inch
Machinery:	Diesels. B.H.P.: 10,000=22 kts. (*surface*) Electric motors. H.P.: 3,500=16 kts. (*submerged*)

Notes

These four units are reported to be of " Z " class bas c design but converted to guided missile submarines with larger conning towers and two vertical tubes for missile launching.

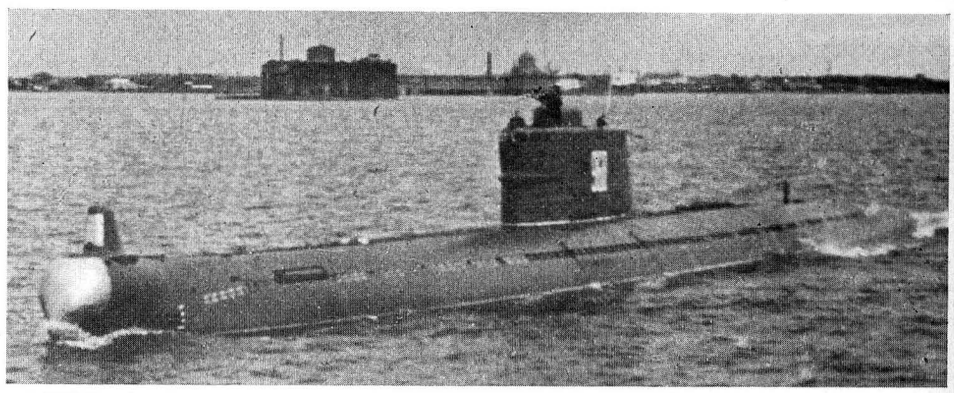
54 " Z " Class. Large Oceangoing Type

No 63 No 66 No 71 No 72 No 958

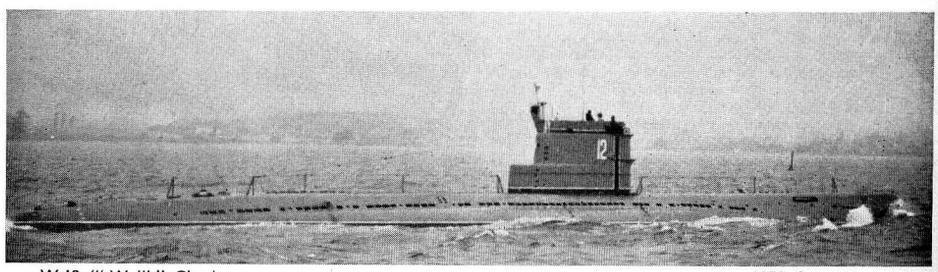
Displacement:	1,900 tons *surface*, 2,200 tons *submerged*
Dimensions:	290 (*o.a.*) × 26 × 19 (*max.*)
Guns:	2—57 mm. in twin turret before conning tower; twin 25 mm. AA. on conning tower (in some units no guns are apparent)
Tubes:	8—21 inch (6 forward, 2 aft). 24 torpedoes carried
Mines:	40 (40 mines *or* 20 torpedoes)
Machinery:	Diesel-electric. Three screws. S.H.P.: 5,500. Diesels: B.H.P.: 10,000 =20 kts. (*surface*) Electric motors: H.P.: 3,500=15 kts. (*submerged*)
Radius:	20,000 to 26,000 miles
Complement:	70

Notes

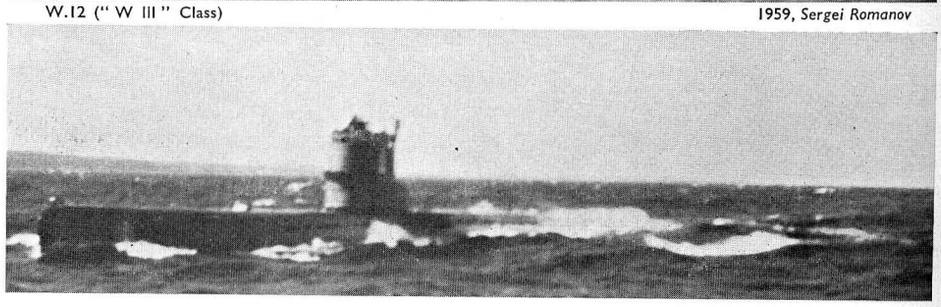
Large oceangoing type. General appearance very streamlined with complete row of rapid flooding holes along the casing. This class is stationed in the Baltic and Far East. The first of the class was laid down in 1951 and many were commissioned during 1952-1960. All equipped with snort. 18 " Z " class submarines were constructed by Sudomekh Shipyard in 1952-55. Some " Z " class submarines are reported to be equipped with guided missiles. Others may be oilers. Mine capacity is alternative to torpedo capacity.



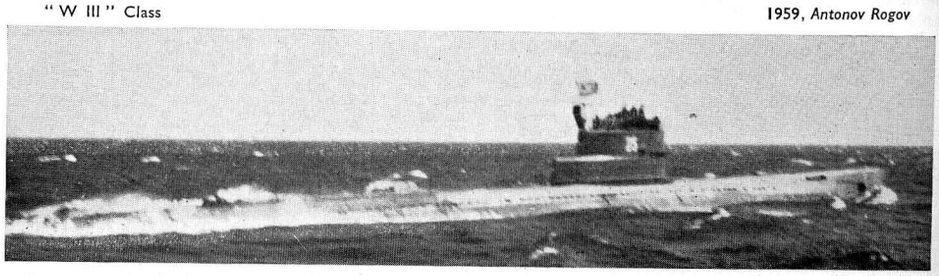
" Z" Class (port bow view) 1960



W.12 (" W III " Class) 1959, *Sergei Romanov*



" W III " Class 1959, *Antonov Rogov*



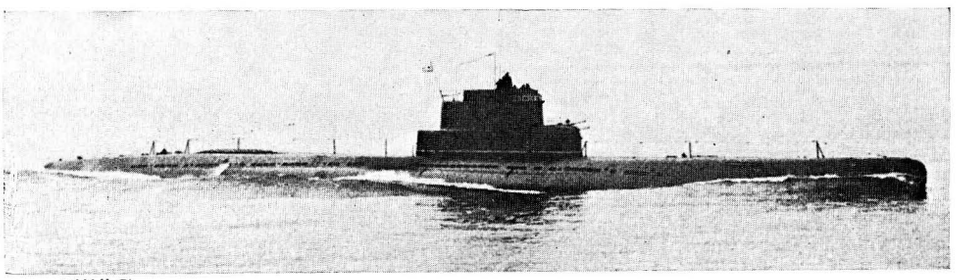
W.25 (" W III " Class) 1959, *Antonov Rogov*

Submarines—*continued*

136 "W" Class. Seagoing Patrol Type

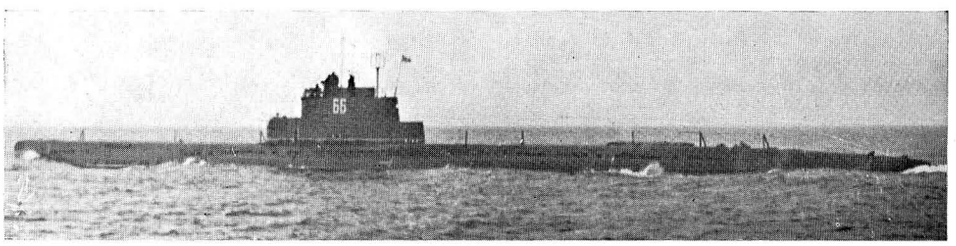
No 12	**No 66**	**No 179**	**S 48**	**S 176**
No 25	**No 78**	**No 244**	**S 77**	**S 221**
No 28	**No 81**	**No 261**	**S 87**	**S 222**
No 29	**No 125**	**No. 752**	**S 91**	**S 237**
No. 34			**S 173**	**S 333**

Displacement: 1,030 tons *surface*, 1,180 tons *submerged*
Dimensions: 240 (*o.a.*) × 22 × 15 (*max.*) feet
Guns: Some have 1—3·9 inch in turret before conning tower; 1 light AA. Others 2—57 mm., 2—25 mm.
Tubes: 6—21 inch (4 forward, 2 aft). 14 torpedoes carried
Mines: 40 mines or 20 torpedoes
Machinery: Diesel-electric. Twin screws. Diesels: B.H.P.: 4,000=17 kts. (*surface*) Electric motors: H.P.: 2,500= 15 kts. (*submerged*)
Radius: 13,000 to 16,500 miles
Complement: 60



"W" Class

Notes
Medium size class of long range submarines built or under construction in yards throughout the Soviet Union. All streamlined. This group is subdivided into three types, the "W" class, the "WF" class, and the "W III" class. Stationed in considerable numbers in the Baltic, the North, the Black Sea and the Far East. Equipped with snort. Fitted for minelaying. Some units are reported to be equipped with a special tank on deck for carrying guided missiles and with inclined missile launchers. Some carry one 3·9 inch deck gun.



"W" Class

1956, *Sergei Romanov*

SEVERYANYA

Notes
Converted "W" class submarine fitted out for scientific research purposes.

50 "Q" Class. Medium Range Type

No. 23	**No. 45**	**No. 51**	**No. 66**	**No. 72**
No. 37	**No. 47**	**No. 62**	**No. 68**	**No. 75**
				No 98

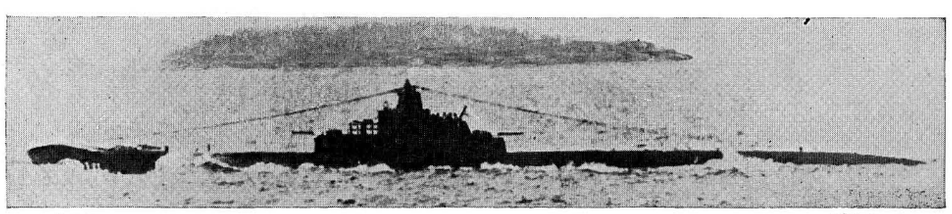
Displacement: 650 tons *surface*, 740 tons *submerged*
Dimensions: 185 (*o.a.*) × 18 × 13 (*max.*) feet
Guns: 2—25 mm. in gunhouse forward of conning tower
Tubes: 4—21 inch
Machinery: Diesel. 1 shaft. B.H.P.: 3,000=18 kts. (*surface*) Electric motors. H.P.: 2,500=16 kts. (*submerged*)
Radius: 7,000 miles cruising range
Complement: 40

Notes
New medium range, single screw submarines, improved versions of the "Shch" class, see later page. Thirteen were constructed in 1955 by Sudornekh Shipyard, Leningrad.

13 "K" Class

K 1	**K 51**	**K 55**	**K 58**	**K 77**
K 20	**K 52**	**K 56**	**K 60**	**K 78**
K 21	**K 53**	**K 57**		

Displacement: 1,457 tons (*surface*); 2,062 tons (*submerged*)
Dimensions: 282 (*pp.*), 320 (*o.a.*) × 24 × 14 feet
Guns: 2—4 inch, 2—45 mm. AA.
Tubes: 12—21 inch, 6 bow, 4 stern, 2 under deck (20 torpedoes carried)
Machinery: Diesels. B.H.P.: 8,400=18 to 22·5 kts. (*surface*); electric motors, H.P.: 2,400=10 kts. (*submerged*)
Oil fuel: 150 tons
Radius: 10,000 miles at 9 kts.
Complement: 62



"K" Class

Added 1955

Notes
Launched during 1939-43. Fitted for minelaying. Can carry 32 mines. This class can operate at great distances and for long periods.

Ex-German Types

4 Type XXI

N 27 (ex-*U* 2529) **N 29** (ex-*U* 3041)
N 28 (ex-*U* 3035) **N 30** (ex-*U* 3515)

Displacement: 1,280 tons (*designed*), 1,620 tons (*surface*), 2,100 tons (*submerged*)
Dimensions: 252⅜ × 21⅓ × 20½ feet
Guns: 4—37 mm. AA.
Tubes: 6—21 inch (23 torpedoes stowed)
Machinery: M.A.N. diesels. B.H.P.: 4,000=15·5 kts. (*surface*) Electric motors. H.P.: 5,000=17·5 kts. (*submerged*)
Oil fuel: 250 tons
Radius: 11,000 miles at 12 kts.
Complement: 57



N 27

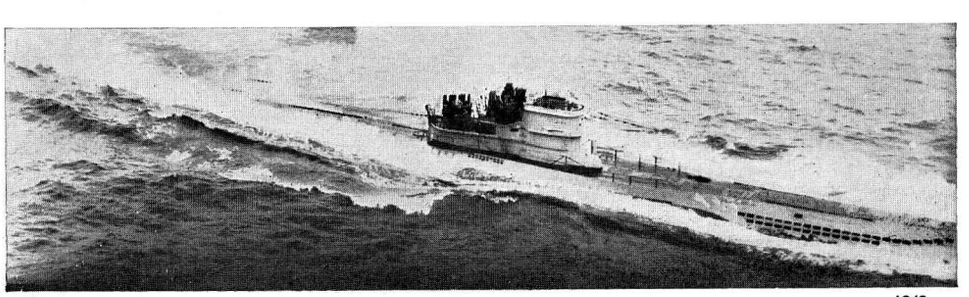
1948

Notes
All launched in 1944-45. N 27 was built by Blohm & Vosg, N 28 and N 29 by Deschimag, Bremen, N 30 by Schichau, Danzig. Equipped with snort. Long cruising range. High under-water speed. (Ex-*U* 3538, *U* 3539, *U* 3540, *U* 3541 and *U* 3542 were never completed.)

4 Type VII

S 81 (ex-*U* 1057) **S 83** (ex-*U* 1064)
S 82 (ex-*U* 1058) **S 84** (ex-*U* 1305)

Displacement: 595 tons (*designed*), 770 tons (*surface*), 1,070 tons (*submerged*)
Dimensions: 220 × 20 × 15½ feet
Guns: 1—37 mm. AA., 4—20 mm. AA.
Tubes: 5—21 inch (14 torpedoes stowed)
Machinery: Diesels of varying types. B.H.P.: 2,800=17 kts. (*surface*) Electric motors. 2 shafts. H.P.: 750=7·6 kts. (*submerged*)
Oil fuel: 110 tons
Radius: 6,500 miles at 12 kts.
Complement: 45



S 83

1948

Notes
Launched in 1942-43. First three were built by Germaniq, Kiel; and ex-U 1305 by Flensburger Schiffbaugesellshaft.

Submarines—*continued*

19 "Shch IV" Class

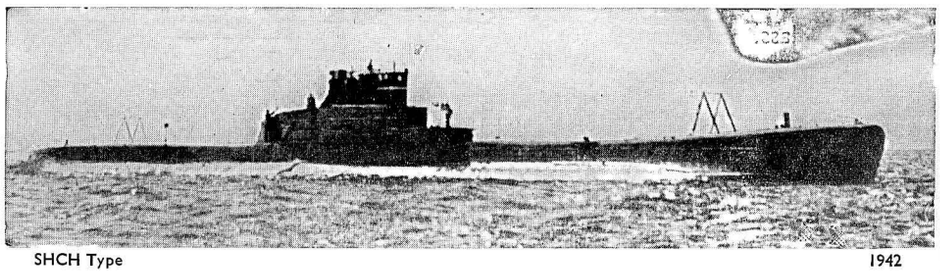
Sh 400	**Sh 404**	**Sh 411**	**Sh 425**	**Sh 429**
Sh 401	**Sh 407**	**Sh 412**	**Sh 426**	**Sh 430**
Sh 402	**Sh 408**	**Sh 419**	**Sh 427**	**Sh 431**
Sh 403	**Sh 410**	**Sh 422**	**Sh 428**	

Displacement: 620 tons (*surface*), 738 tons (*submerged*)
Dimensions: 190½ × 19½ × 13 feet
Guns: 2—45 mm. AA., 2 M.G.
Tubes: 6—21 inch (10 torpedoes)
Machinery: Diesels. B.H.P.: 1,600=15·5 kts. (*surface*)
Electric motors. H.P.: 800=8·5 kts. (*submerged*)
Oil fuel: 60 tons
Radius: 4,000 miles at 8 kts.
Complement: 40

Notes

Medium range type. Launched during 1939-49. There are variations in design between the earlier and later units. *Shshuka*, name of the first boat built, means the pike, and as it began with the letter "Shch" it became the identification letter of the whole class, which are named after fishes.

The "Shch" class in the Baltic were of four different designs as follows: 'Shch" I: Nos. 301-304; "Shch" II: Nos. 305-310; 'Shch" III: No. 318; and "Shch" IV: Nos. 400 *et seq.*



SHCH Type 1942

Recent Disposals

It was reported in 1960 that 50 boats of this class, *Sh.* 101 to 139, 141, 201, 203, 205, 207, 215, 305, 307, 309, 310 and 318, including most of the "Shch" I, II and III classes, having become obsolete and worn out, are scrapped.

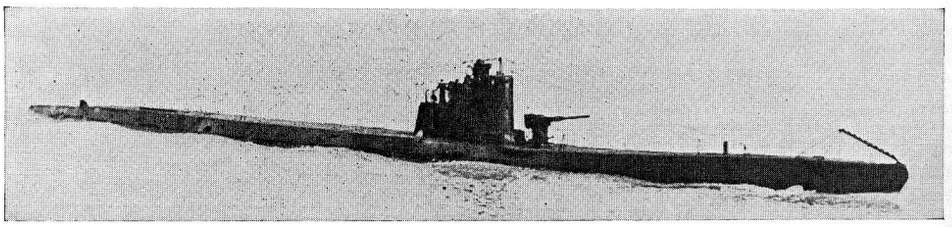
30 "S (C)" Class

S 4	**S 17**	**S 23**	**S 36**	**S 101**
S 9	**S 18**	**S 24**	**S 37**	**S 102**
S 12	**S 19**	**S 25**	**S 38**	**S 103**
S 13	**S 20**	**S 26**	**S 54**	**S 104**
S 14	**S 21**	**S 31**	**S 55**	**S 137**
S 16	**S 22**	**S 35**	**S 56**	**S 139**

Displacement: 780 tons (*surface*), 1,050 tons (*submerged*)
Dimensions: 256 × 21 × 13 feet
Guns: 1—3 inch, 1—45 mm. AA.
Tubes: 6—21 inch
Machinery: Diesels. B.H.P.: 4,200=20 kts. (*surface*)
Electric motors. H.P.: 2,200=8·5 kts. (*submerged*)
Oil fuel: 105 tons
Radius: 9,800 miles at 9 kts.
Complement: 50

Notes

Launched in 1937-40. Boats of this class are in the Baltic, the Black Sea and the Far East.



S Class 1955

Recent Disposals

S 50 was discarded in 1958, and *S* 15, *S* 51, *S* 52 and *S* 53 in 1959.

Recent Disposals of Other Classes

The 23 remaining very old submarines of the "L" class, the equally old ex-Estonian submarine *Lembit* of the Vickers type, and the three surviving old submarines of the "D" class, are worn out and discarded; if they retain any military value they can only be used for instructional purposes.

The old ex-German submarine *N* 25 (ex-*U* 1231) of the "IXc" type, the two old ex-German submarines *U* 18 and *U* 24 of the "IIb" type, the remaining old ex-German submarines of the "Seehund" type; and the old ex-Italian submarines *Nichelio*, *Z* 14, and *Marea*, *Z* 13, of the "Acciaio" and "Flutto" classes, respectively, all taken over by the Russians as war prizes, are now of doubtful value and will be scrapped or otherwise disposed of now that Russia has built so many submarines of her own design in her own yards.

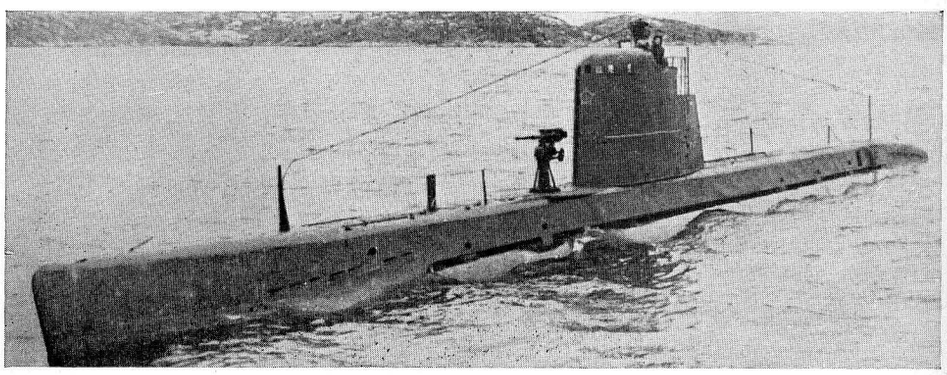
35 "M V" Type

M 200	**M 256**	**M 263**	**M 270**	**M 277**
M 201	**M 257**	**M 264**	**M 271**	**M 278**
M 202	**M 258**	**M 265**	**M 272**	**M 279**
M 203	**M 259**	**M 266**	**M 273**	**M 280**
M 204	**M 260**	**M 267**	**M 274**	**M 281**
M 254	**M 261**	**M 268**	**M 275**	**M 282**
M 255	**M 262**	**M 269**	**M 276**	**M 283**

Displacement: 350 tons (*surface*) 420 tons (*submerged*)
Dimensions: 167⅓ × 16 × 12 feet
Guns 1—45 mm. AA., 1 M G.
Tubes: 2—21 inch
Machinery: Diesels. B.H.P.: 1,000=13 kts. (*surface*)
Electric motors H.P.: 800=10 kts. (*submerged*)
Oil fuel: 21 tons
Radius: 4,000 miles at 10 kts. (*surface*)
100 miles at 5 kts. (*submerged*)
Complement: 24

Notes

Launched in 1944-50. For coastal operations. Enlarged and improved editions of original "M" type. Some were transported in sections on the Trans-Siberian Railway and assembled at Vladivostok for service in the Pacific.



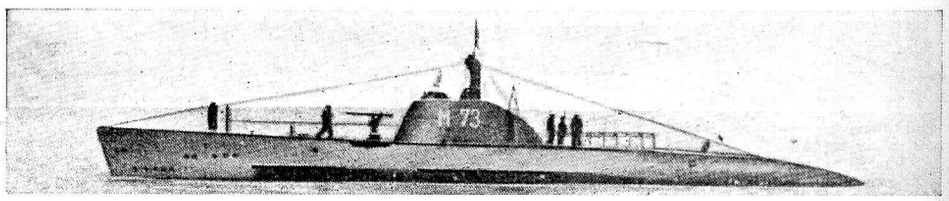
Recent Disposals

It was reported in 1960 that 28 boats of this class, *M* 205, 206, 209, 211, 212, 214, 215, 216, 219, 234, 235 and 237 to 253, having become obsolete and worn out, are scrapped.

18 "M IV" Type

M 102	**M 106**	**M 120**	**M 123**	**M 172**
M 103	**M 111**	**M 121**	**M 124**	**M 174**
M 104	**M 112**	**M 122**	**M 171**	**M 175**
M 105	**M 119**			**M 176**

Displacement: 205 tons (*surface*), 256 tons (*submerged*)
Dimensions: 147⅔ × 11 × 9 feet
Guns: 1—45 mm. AA.
Tubes: 2—21 inch
Machinery: Diesels. B.H.P.: 800=13 kts. (*surface*)
Electric motors. H.P.: 400=8 kts. (*submerged*)
Oil fuel: 18 tons
Radius: 3,400 miles at 8 kts. (*surface*)
90 miles at 3 kts. (*submerged*)
Complement: 20



General Notes

Launched in 1939-44. All built on a mass-production basis, notably at Gorki, and sent to their assembly ports in sections. Can be easily transported by rail but have a very limited radius of action. Majority in reserve. Some discarded.

The "M" class in the Baltic were of five different designs as follows: "M I": Nos. 71 *et seq*; "M II": No. 77; "M III"; Nos. 79-96; "M IV": Nos. 102 *et seq.*; "M V": Nos. 200 *et seq.*

Recent Disposals

The "M I," "M II" and "M III" types, having become obsolete and worn out, are scrapped.

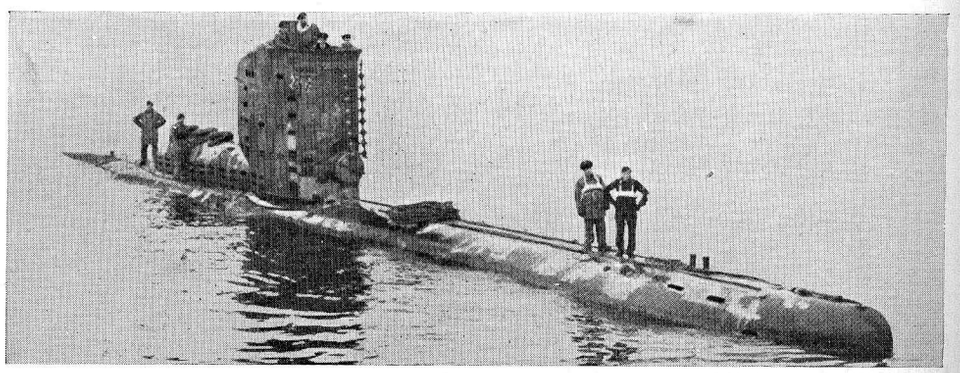
1 Type XXIII

N 31 (ex-*U* 2353)

Displacement: 233 tons (*surface*), 274 tons (*submerged*)
Dimensions: 114 × 11 × 12 feet
Tubes: 2—21 inch (only 2 torpedoes stowed)
Machinery: 1 diesel. B.H.P.: 575=9·75 kts. (*surface*)
1 electric motor. H.P.: 580=12·5 kts. (*submerged*)
Oil fuel: 18 tons
Radius: 1,350 miles at 9 kts.
Complement: 13

General Notes

N 31 was built by Deutshe Werft, Hamburg, and launched in 1944. The hulls of German submarines which fell into Russian hands in 1945 were never completed as the Russians completed so many of their own designs.



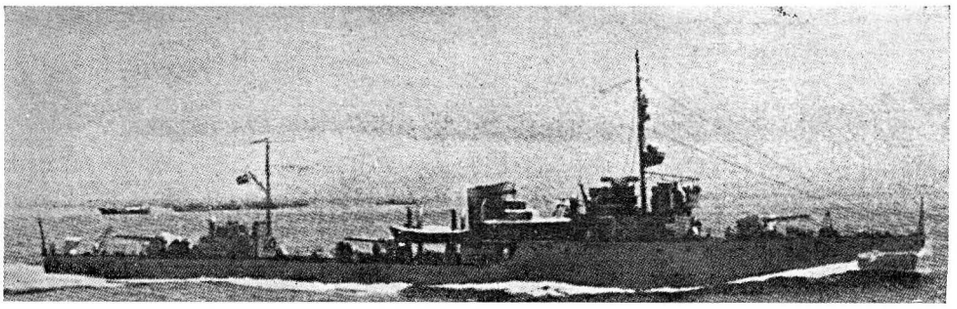
CORVETTES

2 Ansaldo Type

DZERZHINSKI (ex-*P.S.* 8) **KIROV** (ex-*P.S.* 26)

Displacement:	810 tons *standard* (1,200 tons *full load*)
Dimensions:	249½ (*pp.*), 262½ (*o.a.*) × 27¼ × 16¾ feet
Guns:	2—4 inch, 4—40 mm. AA., 2.M.G.
Mines:	Can carry 40 to 50
Machinery:	3 Fiat and Tosi diesels respectively. 3 shafts. B.H.P.: 4,800=20 kts. (Trials: H.P.: 5,400=22 kts.)
Oil fuel:	44 tons
Complement:	120

Notes
Built by Ansaldo, Italy. Launched on 19 Aug. 1934 and 18 Sep. 1934, respectively Fitted for minelaying. Coast-guard vessels. In the Far East.



Recent Disposals
The three very old frigates (oceangoing torpedo boats) of the " *Markin* " class, *Altfater* (ex-*Turkmenets—Stravropolski*), *Bakinski-Rabotchi* (ex-*Voiskovoi*) and *Markin* (ex-*Ukraina*), and the very old frigate (oceangoing torpedo boat) *Konstruktor* (ex-*Sibirski*, *Stryelok*) of the " Kondratenko " type are worn out and are being discarded.

The 22 ex-Japanese frigates, the *Hatsuzakura* (ex-*Susuki*), *Kaya*, *Kiri* and *Shii* of the turbine escort destroyer type, the *Ikno* and *Kozu* of the diesel destroyer escort type, Nos. 34, 48, 52, 76, 78, 102, 142 and 196 of the turbine corvette type, Nos. 71, 77, 79, 105, 221 and 227 of the diesel corvette type, the *Shimushu* of the diesel destroyer escort " A " type, and the *Kiji* of the oceangoing torpedo boat or light destroyer type; the three ex-Italian frigates *Animoso* (ex-*Z* 16), *Ardimentoso* (ex-*Z* 19) and *Fortunale* (ex-*Z* 17) of the oceangoing torpedo boat or light destroyer type; and the six ex-German very old frigates *Podvizhnoi* (ex-*T* 12), *Poryvistyi* (ex-*T* 17), *Porazhayushchyi* (ex-*T* 107, ex-*G* 107), *Prozorlivyi* (ex-*T* 158, ex-*V* 158) and *Pronzitelnyi* (ex-*T* 196, ex-*G* 196) of the oceangoing torpedo boat or small destroyer type, and the *F* 7 of the escort vessel type, all taken over by the Russian Navy after the Second World War, are now worn out and are of very small or no military value; they are merely used as hulks or accommodation ships, harbour vessels, etc. Full details and photographs of these ships appear in the 1957-58 and earlier editions of " Fighting Ships."

FAST MINESWEEPERS

24 Modified " Polukhin " Class

SEIMEN PALEIKOV **No 452** **and others**

Displacement:	700 tons *standard* (910 tons *full load*)
Dimensions:	259 × 26½ × 9 feet
Guns:	2—3 inch AA., 4—37 mm. AA., 2—20 mm. AA.
Machinery:	Diesels. 2 shafts. B.H.P.: 8,000=24 kts.
Oil fuel:	200 tons
Complement:	120

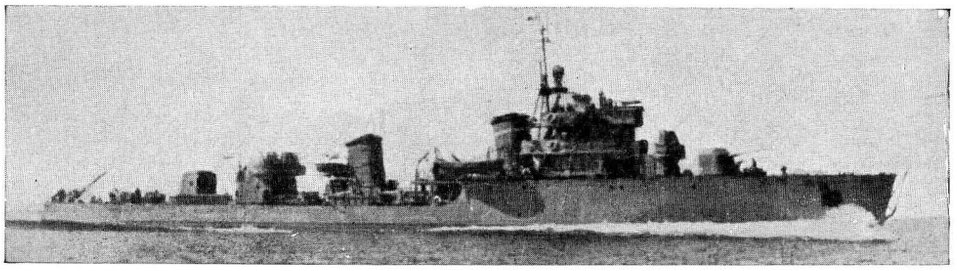
Notes
Launched in 1950-55. An improved class of fast ocean minesweepers similar to *Vladimir Polukhin* but they have 3 inch guns. Reported 12 at Vladivostock and 5 at Leningrad. No. 452 and others have the after funnel almost entirely enveloped by a bridge screen.

6 " Polukhin " Class

VAN SLADKOV **VASILI GROMOV**
ERGEI SHUVALOV **VLADIMIR POLUKHIN**

Displacement:	600 tons *standard* (800 tons *full load*)
Dimensions:	250 (*o.a.*) × 26 × 8½ feet
Guns:	2—4 inch, 3—37 mm. AA., 2—20 mm. AA., 4—13 mm. M.G.
Machinery:	Diesel. 2 shafts. B.H.P.: 8,000=24 kts.
Oil fuel:	190 tons
Complement:	116

Notes
Launched in 1940-50. Designed as fast minesweepers for fleet duties, but are more like destroyers in silhouette.



VASILI GROMOV *Added* 1950

FAST ESCORTS

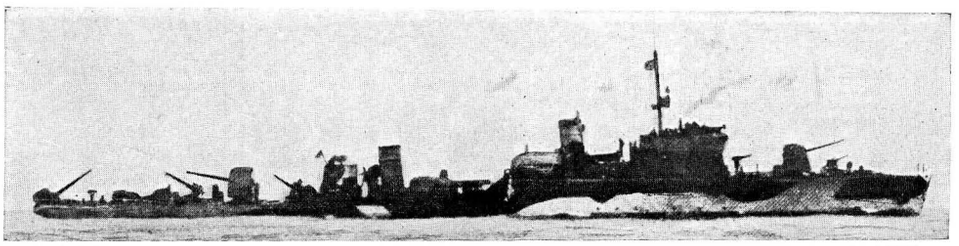
13 " Shtorm " Group

3 " Improved Shtorm " Class

MOLNIYA **SERP** **ZARNITSA**

Displacement:	500 tons *standard* (670 tons *full load*)
Dimensions:	236½ × 24¾ × 9¾ feet
Guns:	2—3·9 inch, 4—37 mm. AA., 2 M.G.
Tubes:	3—17·7 inch
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,500=25·5 kts.
Boilers:	2
Oil fuel:	120 tons
Complement:	100

Notes
All launched in 1937-39. The design is an improvement on that of the *Shtorm* class. All in the Far East.



TUTCHA *Added* 1948

General Notes for the Group
Reported fore and aft gun turrets removed, replaced with AA guns. Mainmast removed. Officially rated as escort vessels or *storozhevye korabli* (guardships). *Shtorm* and *Shkval* (Group I) stationed in Black Sea, *Burun*, *Grom*, *Metel*, *Vyuga* (Group IV) in Far East, *Groza*, *Smerch*, *Uragan* (Group III) in White Sea, *Taifun*, *Tutcha*, *Vikhr* (Group II) in Baltic. War losses: *Burya*, *Purga*, *Tsiklon*, *Sneg*.

Recent Disposals
It was reported in 1960 that the two boats of the " Shkval " class, *Shkval* and *Shtorm*, are obsolete and worn out and are being discarded. It was also reported that the three boats o the " Taifun " class, *Taifun*, *Tutcha* and *Vikhr*, and the three boats of the " Groza " class, *Groza*, *Smerch* and *Uragan*, are of no further military value on account of their age.

4 " Burun " Class

BURUN **GROM** **METEL** **VYUGA**

Displacement:	490 tons *standard* (635 tons *full load*)
Dimensions:	236½ × 24¾ × 9½ feet
Guns:	2—3·9 inch, 4—37 mm. AA., 2 M.G.
Tubes:	3—17·7 inch
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,500=25 kts.
Boilers:	2
Oil fuel:	120 tons
Complement:	88

Notes
All launched in 1934-1936. Stationed in the Far East.

3 " Groza " Class

GROZA **SMERCH** **URAGAN**

Displacement:	530 tons
Dimensions:	236½ × 24¾ × 9½ feet
Guns:	2—3·9 inch, 4—37 mm. AA.
Tubes:	3—17·7 inch
Mines:	15
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,200=25 kts.
Boilers:	2
Oil fuel:	120 tons
Complement:	100

Notes
All launched in 1934-1936. Stationed in the White Sea.

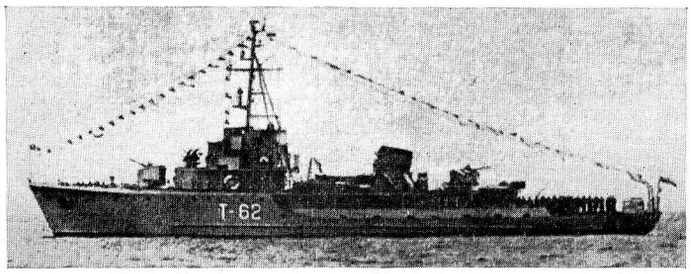
3 " Taifun " Class

TAIFUN **TUTCHA** **VIKHR**

Displacement:	487 tons *standard* (620 tons *full load*)
Dimensions:	233 (*pp.*) × 24 × 8½ feet
Guns:	2—3·9 inch, 4—45 mm. AA., 4 M.G.
Tubes:	3—17·7 inch (tripled)
A/S weapons:	2 D.C.T.
Mines:	50
Machinery:	Geared turbines. 2 shafts. S.H.P.: 6,440=25 kts.
Boilers:	2, of 3-drum type
Oil fuel:	115 tons
Complement:	72 to 101

Notes
All launched in 1932-1934. Stationed in the Baltic.

FLEET MINESWEEPERS



"T 43" Class 1958

84 "T 43" Class

T 43	**T 65**	**T 76**	**T 92**	**T 115**	**T 533**	**T 801**
T 54	**T 66**	**T 80**	**T 95**	**T 129**	**T 648**	**T 802**
T 60	**T 74**	**T 91**	**T 96**	**T 157**	**T 692**	**T 864**
						and others

Displacement: 410 tons *standard* (530 tons *full load*)
Dimensions: 200×27½×9 feet
Guns: 4—37 mm. AA.
Machinery: Diesels. 2 shafts=18 kts.

General Notes

A new type of moderately fast fleet minesweepers built in 1953-59 in shipyards throughout the Soviet Union. Other numbers of minesweepers reported are 707, 711 and 912. Of this class of 100 units, ten were transferred to Poland and six to Egypt.

Appearance Notes

Similar to the "Bobr" Class in the Polish Navy. See photograph of T 62 above.

4 Ex-German Type 3

Ex-**M 807** Ex-**M 808** Ex-**M 817** Ex-**M 822**

Displacement: 605 tons *standard* (813 tons *full load*)
Dimensions: 223×29½×8½ feet
Guns: 6—37 mm. AA.
A/S weapons: 2 D.C.T.
Mines: 30
Machinery: Triple expansion with exhaust turbines. 2 shafts. I.H.P.: 2,400=16·5 kts.
Boilers: 2 water tube three-drum type
Coal: 136 tons
Radius: 3,600 miles at 11 kts.
Complement: 95

Notes

Former German minesweepers of the "M 43" type. Built by Neptun, Rostocki. Launched in 1944-45.

29 Ex-German Type 2

T 701 (ex-*M* 265)	**T 708** (ex-*M* 342)	**T 715** (ex-*M* 406)	**T 722** (ex-*M* 443)
T 702 (ex-*M* 267)	**T 709** (ex-*M* 343)	**T 716** (ex-*M* 407)	**T 723** (ex-*M* 446)
T 703 (ex-*M* 279)	**T 710** (ex-*M* 369)	**T 717** (ex-*M* 411)	**T 724** (ex-*M* 456)
T 704 (ex-*M* 291)	**T 711** (ex-*M* 377)	**T 718** (ex-*M* 415)	**T 725** (ex-*M* 461)
T 705 (ex-*M* 324)	**T 712** (ex-*M* 386)	**T 719** (ex-*M* 423)	**T 726** (ex-*M* 467)
T 706 (ex-*M* 330)	**T 713** (ex-*M* 401)	**T 720** (ex-*M* 425)	**T 727** (ex-*M* 471)
T 707 (ex-*M* 341)	**T 714** (ex-*M* 405)	**T 721** (ex-*M* 431)	**T 728** (ex-*M* 484)
			T 729 (ex-*M* 496)

Displacement: 551 tons *standard* (748 tons *full load*)
Dimensions: 202×28×9 feet
Guns: 6—37 mm. AA.
Machinery: Reciprocating, with exhaust turbine. 2 shafts. I.H.P.: 2,150=16·7 kts.
Boilers: 2 modified Schulz
Coal: 142 tons
Radius: 4,000 miles at 10 kts.
Complement: 80

Notes

Former German minesweepers of the "M 40" type. All launched in 1941-44. The majority are in the Baltic. One mast. No. 402 and others have been converted into surveying vessels, with G numbers. Photograph in the 1957-58 edition.

14 Ex-German Type 1

T 911 (ex-*M* 3)	**T 915** (ex-*M* 30)	**T 919** (ex-*M* 155)	**T 922** (ex-*M* 254)
T 912 (ex-*M* 7)	**T 916** (ex-*M* 34)	**T 920** (ex-*M* 203)	**T 923** (ex-*M* 255)
T 913 (ex-*M* 17)	**T 917** (ex-*M* 151)	**T 921** (ex-*M* 204)	**T 924** (ex-*M* 256)
T 914 (ex-*M* 29)	**T 918** (ex-*M* 154)		

Displacement: 717 tons *standard* (900 tons *full load*)
Dimensions: 229½×28¾×9 feet
Guns: 2—4·1 inch, 1—37 mm. AA., 8—20 mm. AA.
Machinery: Bersig reciprocating. 2 shafts. I.H.P.: 3,500=18·3 kts.
Boilers: 2 Wagner
Fuel: 143 tons
Radius: 5,000 miles at 10 kts.
Complement: 100

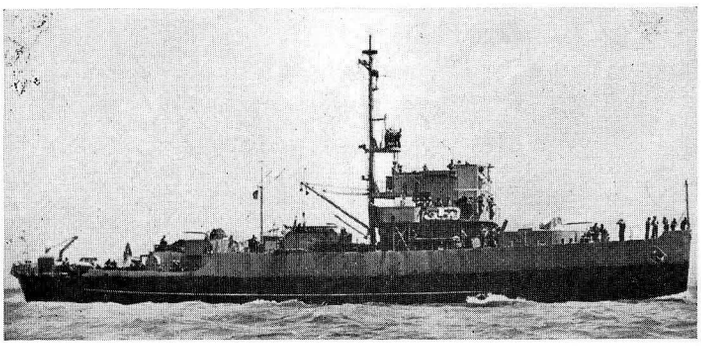
Notes

Former German minesweepers of the "M 35" type. All launched in 1937-42. Twelve are reported to be in the Black Sea. Photograph of T 915 in the 1958-59 and earlier editions.

Recent Disposals

The two very old ex-German minesweepers *Pirmunas* (ex-*Smetona*, ex-*M* 59) and ex-*Virsaitis* (ex-*M* 68) previously owned by Lithuania and Latvia, respectively; the two very old ex-Finnish minesweepers *Pioner* (ex-*Korshun*) and *Minyor* (ex-*Yastreb*, ex-*SS Bore*); and the four old ex-Japanese minelayers Nos. 12, 17, 20 and 23, are worn out and are now of little or no military value.

Fleet Minesweepers—*continued*



ADMIRABLE Type *Official*

9 Ex-U.S. "Admirable" Type

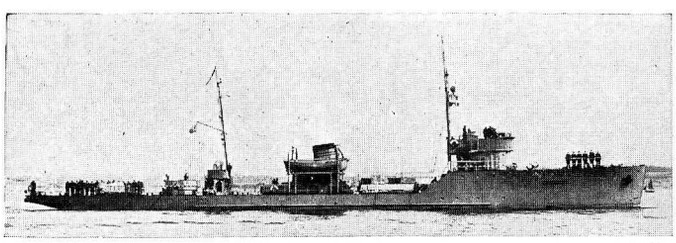
Ex-**DISDAIN** AM 222	Ex-**MEASURE** AM 263	Ex-**NUCLEUS** AM 268
Ex-**FANCY** AM 234	Ex-**METHOD** AM 264	Ex-**PENETRATE** AM 271
Ex-**MARVEL** AM 262	Ex-**MIRTH** AM 265	Ex-**RAMPART** AM 282

Displacement: 650 tons *standard* (945 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.a.*)×33×10 (*max.*) feet
Guns: 1—3 inch D.P., 2—40 mm. AA., 6—20 mm. AA.
Machinery: Diesel. 2 shafts. B.H.P.: 1,900=16 kts.
Complement: 100

Notes

All launched in 1942. Acquired during 1943. Of the original 34 steel hulled fleet minesweepers of the "Admirable" class transferred from the United States to Russia during the Second World War under the terms of the lend-lease programme, 21 have been destroyed, 4 lost and 9 retained by Russia to purchase outright. It is reported that four "Admirable" class fleet minesweepers have been converted to surveying vessels named *Gidrofon*, *Gidromtr*, *Gidroscop* and *Gorizont*, see later page under Survey Vessels.

MINESWEEPERS



PODSEKATEL 1948

41 "Tral" Class

CHEKA	FE	**MINA**	BS	**STRELA**	FE
GAFEL (T 205)	B	**MINREP**	BS	**TRAL**	BS
GAK (T 210)	B	**PARAVAN**	FE	**TROSS**	FE
GARPUN	BS	**PATRON**		**UDARNIK**	
GRUZ	BS	**PLAMYA**		**VEKHA**	FE
ISKATEL	BS	**PODSEKATEL**	FE	**VERP**	
KAPSUL	FE	**PROVODNIK**	FE	**VZRYV**	BS
KONTRADMIRAL KHOROSHKHIN (T 219)	B	**RUBIN**		**YAKORJ**	BS
		RYM (T 211)	B	**ZAPAL**	
KARAMBOL		**SHKIV**		**ZARYAD**	
MATROS		**SHPILL** (T 207)	B	**and others**	
		SHCHIT	BS		

Displacement: 441 tons *standard* (550 tons *full load*)
Dimensions: 187 (*pp.*), 203 (*o.a.*)×23½×7¾ feet
Guns: 1—4 inch, 2—37 mm. AA.
Mines: 40
Machinery: Diesel. 2 shafts. B.H.P.: 2,800=18 kts.
Oil fuel: 96 tons
Complement: 55

Notes

Fitted for minelaying and minesweeping, *Cheka*, *Kapsul*, *Paravan*, *Podsekatel*, *Provodnik*, *Strela*, *Tross* and *Vekha* are in the Far East. T 205, 207, 210, 211, 215, 217, 218, 219 are in the Baltic, others in the Black Sea. Built in two series 1935-1936, 1941-1944. Reported to be good sea boats, very handy and effective in minesweeping. "*Yakorj*" means "Anchor". Some of this class are employed as Coast Guard vessels. *Fugas* (201), 202, 203, 204, 206, 208, 209, 212, 213, 217 and *Vzryvatel* were Second World War losses.

20 PSK Type

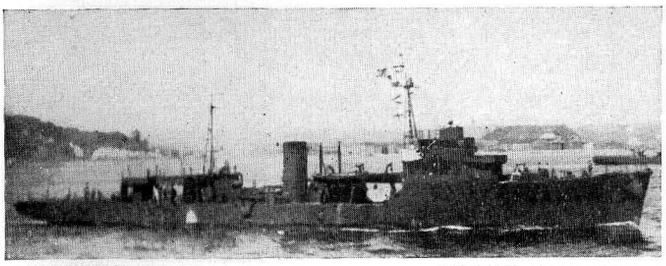
T 401-420 (ex-*P.S.K.* 1-20)

Displacement: 440 tons *standard* (540 tons *full load*)
Dimensions: 187 (*pp.*), 203½ (*o a.*)×23¾×8 feet
Guns: 1—3·9 inch, 2—37 mm. AA.
Mines: 24
Machinery: Diesels. 2 shafts. B.H.P.: 2,800=18 kts.
Oil fuel: 95 tons
Radius: 4,100 miles at 14 kts.
Complement: 60

Notes

P.S.K. (*Pogranichnye*) *Storozhevye Korabli*—(frontier patrol vessel) were built as coast-guard vessels. Taken over by the Navy in 1940 and fitted for minesweeping. Differ slightly from "Tral" class boats. All in the White Sea. Round stern as opposed to square stern of the "Tral" type.

MINELAYERS



KAMISHIMA — *Added 1953, Hajime Fukaya*

General Notes
The Russian Navy is capable of a considerable mine-laying effort. In addition to the specialised minelayers, most cruisers and destroyers, some submarines and other craft are fitted for minelaying which has always been a highly specialised branch of the Russian Navy.

Ex-Japanese Type

Ex-KAMISHIMA

Displacement:	766 tons *standard* (800 tons *full load*)
Dimensions:	228 (*pp*), 240½ (*w.l.*), 244½ (*o.a.*) × 25¾ × 8½ feet
Guns:	2—40 mm. AA., 13—25 mm. AA., 36 D.C. (original)
Mines:	120
Machinery:	2 diesels. B.H.P.: 1,900=16·5 kts.

Notes
Former Japanese light minelayer. Built at Sasebo. Laid down on 20 Feb. 1945. Launched on 12 June 1945. Completed on 30 July 1945. To meet the urgent requirement to lay mines along the Japanese coast this type was built very hurriedly, being designed with a simple hull without camber or sheer, except at the bow, and a hexagonal section funnel.

MURMAN

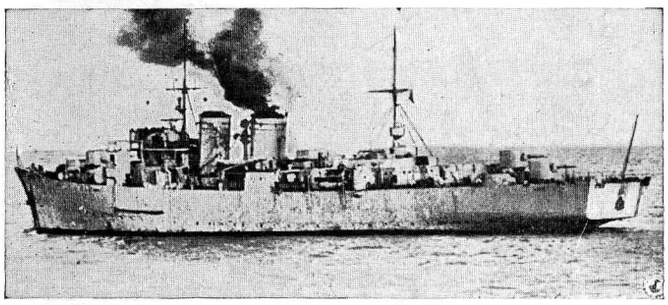
Displacement:	3,000 tons
Dimensions:	266 × 42¾ × 15¾ feet
Guns:	3—5·1 inch, 4—3 inch
Mines:	150
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,400=14 kts.

Notes
Launched in 1937. In the White Sea. Now used as a surveying ship.

URAL (ex-*Felix Dzerzhinski*)

Displacement:	2,800 tons
Dimensions:	331½ × 48 × 25½ feet
Guns:	4—3·9 inch, 2—37 mm. AA., 4 M.G.
Machinery:	Speed: 12 kts.

Notes
Launched in 1929. Now used as a training ship.
The former minelayer *Okhotsk* is now employed as a surveying vessel, see particulars and photograph on page 310.



ELIZABETA — *Added 1948*

ELIZABETA (ex-*Marty*, ex-*Shtandart*)

Displacement:	5,980 tons *standard* (6,900 tons *full load*)
Dimensions:	370¾ (*w.l.*), 400 (*o.a.*) × 50½ × 20 (*mean*), 22 (*max.* feet
Guns:	4—5·1 inch, 55 cal., 7—3 inch, 3—45 mm. AA., 3 M.G.
Mines:	500
Armour:	2" deck
Machinery:	Geared turbines. 2 shafts. S.H.P.: 11,500=20 kts.
Boilers:	4 Yarrow
Oil fuel:	930 tons
Complement:	400

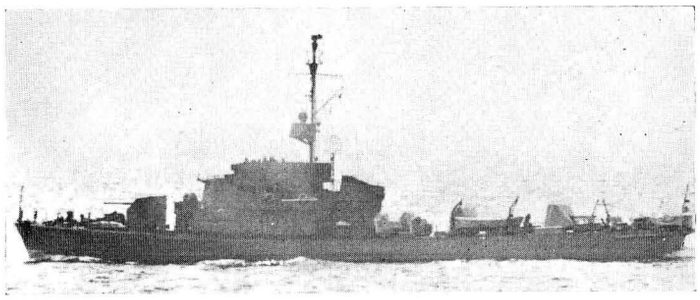
Notes
This ship is the former Imperial yacht, laid down at Copenhagen in 1893, launched on 4 Aug, 1896, and re-engined and rebuilt as a minelayer at Leningrad in 1935-7. She was refitted at Rostock yard in the Russian occupation zone of Germany in the winter of 1948-49. Now used as a training ship. Reported to be at Kronstadt in Oct. 1959 and to have been renamed *Elizabeta*.

VOROSHILOVSK

Displacement:	2,300 tons
Dimensions:	302 × 40 × 16½ feet
Guns:	4—3 inch, 2 M.G.
Mines:	400
Machinery:	Triple expansion. I.H.P.: 750=9 kts.
Coal:	630 tons
Complement:	160

Recent Disposals
The old auxiliary minelayer *Argun* is no longer on the Navy List, having been returned to the Merchant Navy.
The very old ex-Japanese coastal minelayer *Katashima* is worn out and of little or no military value.

PATROL VESSELS



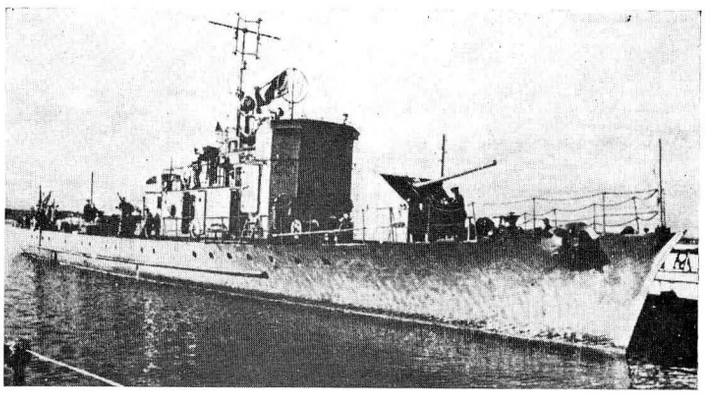
No. 497 — 1955

170 " Kronstadt " Class

No 265 **No 357** **No 361** **No 541**
No 356 **No 360** **No 497** **and others**

Displacement:	300 tons *standard* (350 tons *full load*)
Dimensions:	167½ × 19½ × 9 feet
Guns:	1—3·9 inch, 2—37 mm. AA., 3—20 mm. AA.
A/S weapons:	Depth bomb projectors
Mines:	Fitted for laying
Machinery:	Diesels. 2 shafts:=27 kts.
Oil fuel:	20 tons
Complement:	40

Notes
Built in 1951-1957. Flush decked, large squat funnel, slightly raked, massive block bridge structure. An improved version of the " Artillerist " class. There appear to be two distinct types of this numerous class of modern coastal escort vessels (reported to run into nearly 200 units). The latest type has a particularly effective anti-submarine armament. The earlier type carries mines.



ARTILLERIST

36 " Artillerist " Class

ARTILLERIST **MASHINIST** **SHTURMAN**
ELEKTRIK **MEKHANIK** **TRYUMNYI**
KIROVETS **MOTORIST** **TURBINIST**
LYOTCHIK **PILOT** **and others**

Displacement:	240 tons *standard* (280 tons *full load*)
Dimensions:	160¾ × 19 × 8½ feet
Guns:	1—3 inch, 2—37 mm. AA., 3 M.G.
A/S weapons:	2 Depth charge throwers
Machinery:	Diesel. 2 shafts. B.H.P.: 3,300=25 kts.
Oil fuel:	18 tons
Complement:	36

Notes
Rated as submarine chasers. The design of these handy coastal escort vessels is apparently a Russian version of that of the United States submarine chasers of the PC type. A total of 36 units of this class have been reported.

3 " Rubin " Class

BRILLIANT **RUBIN** **SAPFIR**

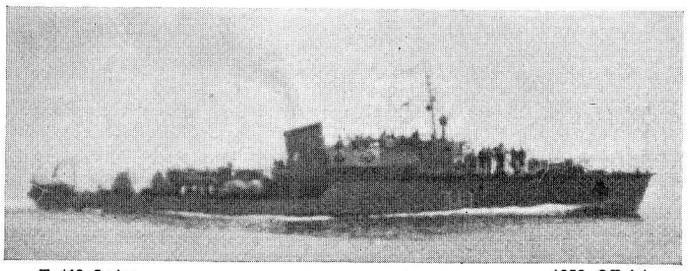
Displacement:	440 tons *standard* (550 tons *full load*)
Dimensions:	203 × 23 × 9 feet
Guns:	1—4 inch, 2—37 mm., 2—13 mm. M.G., D.C.
Machinery:	Diesels. 2 shafts. B.H.P.: 2,300=17 kts.
Oil fuel:	85 tons
Complement:	58

Notes
Rated as gunboats. Similar to the " Tral " type of fleet minesweepers, but for patrol duties.

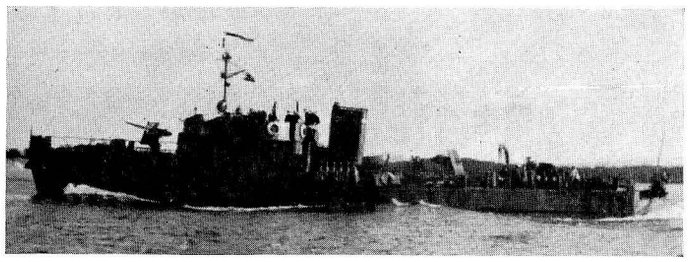
General Notes
The following numbers of patrol boats have been reported:
Destroyer Escorts/Guardships (SKR): 177, 233, 360, 445, 480, 615, 765, 770, 920.
Large submarine chasers: MPK 11, 23, 39, 400, 435, 474, 477.
Large submarine chasers: BO 103, 155, 195, 269, 316, 320, 345, 519, 618, 620, 787, 835.
Coast Guard/Border Guard submarine chasers: 328, 438, 442, 443, 444, 445, 536, 537, 569, 814, 815, 817 and others.
Coast Guard/Border Guard patrol craft: 505, 623, 635, 636, 750, 751, 752, 753.

Recent Disposals
The old patrol boat *Luga* (ex-Estonian *Pikker*), and the very old patrol boat *Ametist* (ex-Estonian *Sulev*, ex-German *A 32*) are worn out and have little or no further military value.

COASTAL MINESWEEPERS



T 460 Series — 1958, *Official*



T 371 Series — *Added*, 1958

100 "T 301" Class

T 371 Series — **T 460 Series**

Displacement:	130 tons
Dimensions:	100 × 16 × 4½ feet
Guns:	2—20 mm. AA., 4 M.G.
Machinery:	Diesel. B.H.P.: 480=10 kts.
Complement:	30

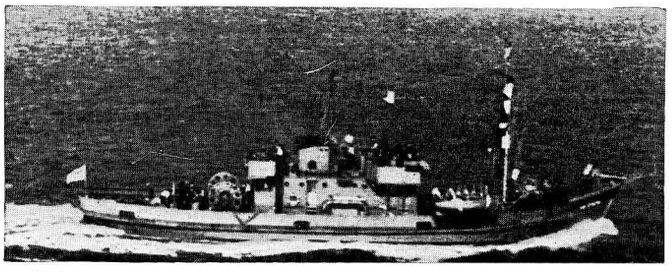
Notes
Same type as Polish "Albatros" class. T 341, 356, 376, 442, 459, 460 and others. Several units of this class are reported to have been converted to surveying vessels.
There are two different types of the "T 301" class, the "T 371" group, and the "T 460" group with raking funnel cap (see top photograph).

12 Ex-British 126 ft. Type

Ex-**MMS 1005**	Ex-**CEDAR LAKE**	Ex-**PINE LAKE**
Ex-**MMS 1023**	Ex-**ELM LAKE**	Ex-**POPULAR LAKE**
Ex-**ALDER LAKE**	Ex-**HICKORY LAKE**	Ex-**SPRUCE LAKE**
Ex-**BEECH LAKE**	Ex-**LARCH LAKE**	Ex-**WILLOW LAKE**

Displacement:	254 tons *standard* (360 tons *full load*)
Dimensions:	126 (*pp.*), 140 (*o.a.*) × 26 × 10½ (*mean*), 12½ (*max.*) feet
Guns:	2—40 mm. AA., 2—20 mm. AA.
Machinery:	Diesel. B.H.P.: 500=10 kts.
Oil fuel:	55 tons
Complement:	21

Notes
Launched in 1944-45. Built in Canadian shipyards on "Mutual Aid" account, and delivered in 1945-46. Ex-*MMS* 1005 and 1023 were acquired from Great Britain.



Ex-MMS 90 — *Added* 1948

3 Ex-British 105 ft. Type

Ex-**MMS 90** — Ex-**MMS 203** — Ex-**MMS 212**

Displacement:	163 tons *standard* (255 tons *full load*)
Dimensions:	105 (*pp.*), 119 (*o.a.*) × 23 × 9½ feet
Guns:	2—20 mm. AA., 2 M.G.
Machinery:	Diesel. B.H.P.: 500=10 kts.
Oil fuel:	22 tons
Complement:	20

Notes
Motor minesweepers of wooden construction, "105-ft." Type, acquired from Great Britain.

Recent Disposals
The old ex-British minesweeping whaler *Shika*, the four old Dutch wooden minesweeping boats *RA* 102, *RA* 103, *RA* 104 and *RA* 105, and the five old coastal minesweepers of the "N" type are worn out and of no further military value.

MINING TENDERS

12 Training Type

MU 41	**MU 43**	**MU 45**	**MU 48**	**MU 51**	**MU 53**
MU 42	**MU 44**	**MU 46**	**MU 50**	**MU 52**	**MU 54**

Displacement:	150 tons *standard* (180 tons *full load*)
Guns:	1—45 mm. AA.
Machinery:	Diesel. Speed: 12 kts.

Notes
Launched in 1936-40. All are attached to the Mining School as Tenders.

PATROL BOATS

Mb 4 Type

Displacement:	61 tons
Dimensions:	85½ × 13½ × 5 feet
Guns:	2—37 mm. AA.
Machinery:	Speed=24 kts.

Notes
Medium patrol boats of recent construction. Designed for coastal anti-submarine duties.

Mb 5 Type

Displacement	145 tons
Dimensions:	130 × 21 × 5 feet
Guns:	3—37 mm. AA.
Machinery:	Speed=21 kts.

Notes
Large patrol boats, reconstructed ex-German "R" boats, a number of which have been reported.

50 Ex-German Type

Ex-R 302 **R 303** **R 305** **R 307** **R 308** **R 310** **R 311** **R 312**

Displacement:	177 tons
Dimensions:	134½ × 19¾ × 6 feet
Guns:	1—37 mm. AA., 3—20 mm. AA.
Machinery:	Burmeister & Wain diesel. B.H.P.: 3,178=23 kts.

Notes
Most of these former German fast coastal minesweepers are now used as patrol boats. Photograph in the 1957-58 edition.

Ex-R 149 **R 234** **R 245** **R 257** **R 262** **R 265** **R 288**
R 238 **R 254** **R 258** **R 264** **R 270** **R 289** **R 409-4533**

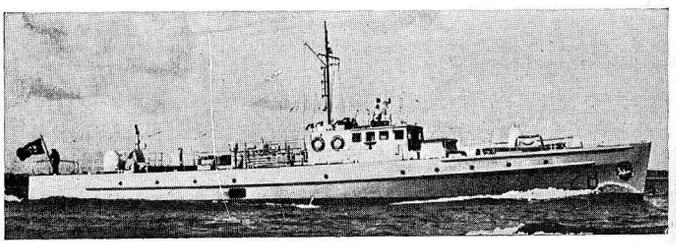
Displacement:	145 tons (R 149 155 tons)
Dimensions:	128¾ × 18¾ × 5 feet
Guns:	3—20 mm. AA
Machinery:	M.A.N. diesel. B.H.P.: 2,500=21 kts,

Notes
Many of these former German fast coastal minesweepers are now employed as patrol boats.

Ex-R 53 58 63 65 87 90 103 105 107 113 122 124

Displacement:	125 tons
Dimensions:	124 × 19 × 5 feet
Guns:	3—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,800=20 kts.
Complement:	20

Notes
Former German fast coastal minesweepers. Launched in 1939-41. Of wooden construction. Now used as patrol boats.



Ex-R 28 — *Added* 1948

Ex-R 23 — **Ex-R 28**

Displacement:	115 and 110 tons
Dimensions:	116 × 16½ × 5½ feet
Guns:	1—20 mm. AA.
Machinery:	M.A.N. diesels. 2 shafts. B.H.P.: 1,800=18 kts.
Complement:	16

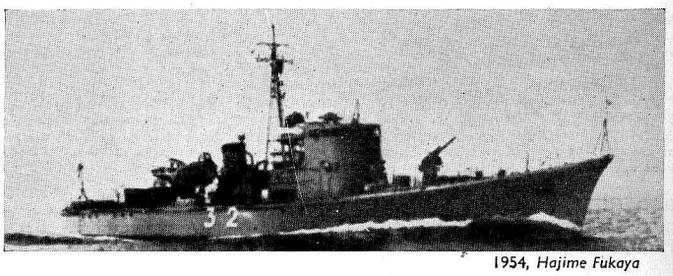
Notes
Former German fast coastal minesweepers. Launched in 1937. Of wooden construction. Now used as patrol boats.

3 Ex-Japanese Type

HAIFENG — **HAILUNG**

Displacement:	200 tons
Dimensions:	Length: 143 feet
Guns:	2—37 mm. AA.
A/S weapons:	2 D.C. racks
Machinery:	Diesels=14 kts.

Notes
Maritime Border Guard (MVD) ships. Former Manchukuan Navy submarine chasers. Built in Japan in 1933. Acquired by Russia at the end of the Second World War. Pennant No. 702.



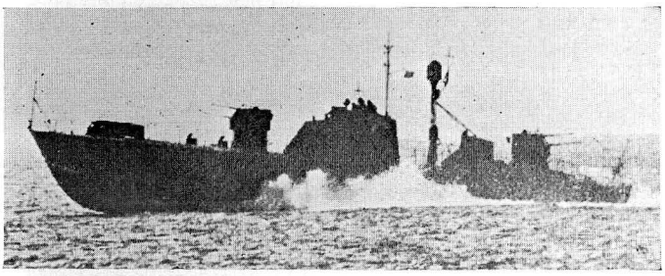
1954, *Hajime Fukaya*

Ex-**No. 38**

Displacement:	460 tons
Dimensions:	167½ (*o.a.*) × 22 × 9 feet
Guns:	1—3·1 inch AA., 3—25 mm. AA., 1—13 mm. AA., 36 D.C.
Machinery:	Diesels. 2 shafts. B.H.P.: 1,700=16 kts.

Notes
Former Japanese. Launched 1940. Employed in minesweeping after the war. Delivered to U.S.S.R. at Nakhodka, 3 Oct. 1947

MOTOR TORPEDO BOATS



New Construction — *Added* 1957

Note
There are reported to be a total of about 500 motor torpedo boats in the Soviet Navy.

"PB" Type

Displacement:	30 tons
Dimensions:	65⅔×16×4 feet
Guns:	2—13 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed=40 kts.

Notes
Latest type of motor torpedo boats. A bigger type is reported to be under construction

100 "PA" Type 3

513 Series

Displacement:	50 tons
Dimensions:	85½×20×6 feet
Guns:	4—25 mm. AA. M.G.
Tubes:	2—21 inch
Machinery:	Speed=42 kts.

Notes
Larger type of motor torpedo boats. All capable of being converted into gunboats.

100 "PA" Type 2

Displacement:	45 tons
Dimensions:	82×16½×5¾ feet
Guns:	2—25 mm. AA. or 4—13 mm. M.G.
Tubes:	2—21 inch
Machinery:	Speed=40 kts.

Notes
Intermediate type of motor torpedo boats. Can be interchanged as gunboats.

100 "PA" Type 1

Displacement:	40 tons
Dimensions:	72×15½×5 feet
Guns:	1—40 mm. AA. or 2—25 mm. AA.
Tubes:	2
Machinery:	Speed=36 kts.

Notes
First of the three "PA" types of post-war construction. Gun and torpedo armament can be varied according to employment.



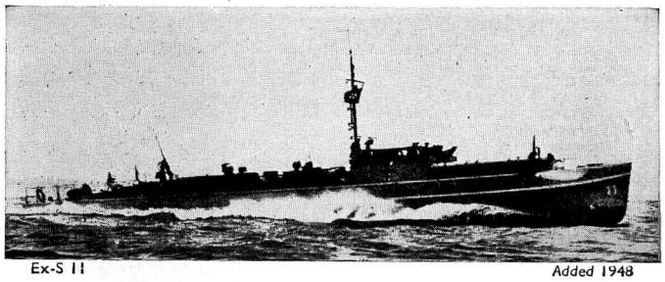
Ex-S 50 — 1948

30 Ex-German Types

Ex-**S 50**	Ex-**S 86**	Ex-**S 110**	Ex-**S 132**	Ex-**S 209**	Ex-**S 227**
Ex-**S 65**	Ex-**S 99**	Ex-**S 113**	Ex-**S 135**	Ex-**S 211**	Ex-**S 704**
Ex-**S 81**	Ex-**S 101**	Ex-**S 118**	Ex-**S 175**	Ex-**S 214**	Ex-**S 707**
Ex-**S 82**	Ex-**S 109**	Ex-**S 123**	Ex-**S 204**	Ex-**S 219**	Ex-**S 708**
				Ex-**S 222**	Ex-**S 709**

Displacement:	92 tons *standard* (113 tons *full load*)
Dimensions:	114½×16×7 feet
Guns:	1—40 mm. AA., 2—20 mm. AA.
Tubes:	2—21 inch (4 torpedoes)
Machinery:	Mercedes diesels. 3 shafts. B.H.P.: 7,500=41 kts.
Oil fuel:	20 tons

Notes
Launched in 1939-44. Of wooden construction. Some are being used as fast patrol boats.



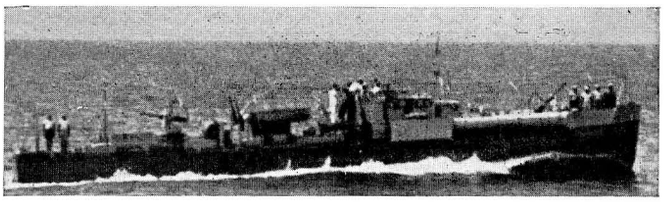
Ex-S 11 — *Added* 1948

Ex-**S 11** Ex-**S 12** Ex-**S 16** Ex-**S 24**

Displacement:	62 tons *standard* (76 tons *full load*)
Dimensions:	113×14×4 feet
Guns:	1—20 mm. AA., 2 M.G.
Tubes:	2—21 inch
Machinery:	Benz diesels. 3 shafts. B.H.P.: 3,960=33 kts.
Oil fuel:	14 tons

Notes
Launched in 1934-39. Of wooden construction. Employed as patrol boats.

Motor Torpedo Boats—*continued*



MS Type — *Added* 1952, *Lieut. Aldo Fraccaroli*

4 Ex-Italian MS Type

Ex-**MS 52** Ex-**MS 61** Ex-**MS 65** Ex-**MS 75**

Displacement:	69 tons
Dimensions:	92×14¾×5 feet
Guns:	2—20 mm. AA.
Tubes:	2—21 inch
Machinery:	B.H.P.: 3,000=32 kts
Complement:	18

Notes
Former Italian MS boats launched in 1940-43.

4 Ex-Italian MAS Type

Ex-**MAS 516** Ex-**MAS 519** Ex-**MAS 520** Ex-**MAS 521**

Displacement:	24 tons
Dimensions:	62×14½×5 feet
Guns:	2—13 mm. AA.
Torpedoes:	2—17·7 inch
Machinery:	B.H.P.: 2,300=40 kts.
Complement:	15

Notes
There are still some units of Italian design, as illustrated. Machinery also of Italian design. Distributed between Baltic, Black Sea, and Far East. Distinctive numbers are painted on C.T.s.

Transfer Notes
Under the Italian Peace Treaty, *MS* 52, 53, 61, 65, 75; *MAS* 516, 519-21; *ME* 40; and *VAS* 245, 246, 248 were all to be ceded to the Soviet Navy. *VAS* 245 was delivered on 30 June 1949. *MS* 52, 61, 65, 75, and *MAS* 516, 519, and *ME* 40 were also delivered.

Recent Disposals
The remaining old Russian motor torpedo boats of the "Sha 4" type, "G 5" type and "D" type, are obsolete and worn out and have been stricken off the list.

General Notes
Motor torpedo boats of the "Marine Border Guard" have pennant designations as follows:
MO (Morskoi Okhotnik) MTB type vessels (Sea Hunter)
SK (Storozhevoi Kater) MTB and SC type (Guard Cutter)
PK (Pogranichnyi Kater) MTB type motor launches (Border Cutter)

BOOM DEFENCE VESSELS

LADOGA **ONEGA** **VYATKA**

Displacement:	530 tons
Dimensions:	185½×30½×4¼ feet
Guns:	3—45 mm. AA., 1 M.G.
Machinery:	Triple expansion. I.H.P.: 330=8 kts.
Coal:	10 tons
Complement:	50

Notes
The boom defence vessel *Lena* (ex-German *Franz E. Schütte*) is reported to have been returned to the Merchant Navy.

RIVER MONITORS

Amur Flotilla

LENIN (ex-*Shtorm*)
SUN-YAT-SEN (ex-*Shkval*)
KRASNYI VOSTOK (ex-*Vyuga*
CHICHERIN (ex-*Vikhr*)
SVERDLOV (ex-*Ouragan*)

Displacement:	965 tons
Dimensions:	242¾×39⅓×6½ feet
Guns:	2—5·9 inch, 4—4·7 inch, 4—37 mm.
Armour:	4½" turrets, 1⅜" hull
Machinery:	4 sets diesels. B.H.P.: 3,000=15 kts.
Oil fuel:	100 tons
Complement:	104

Notes
Launched in 1910. In the Amur Flotilla. Two single (5·9) and two twin (4·7)turrets.

KAZAN **UDARNYI** **and two others**

Displacement:	1,900 tons
Dimensions:	238×39×10 feet
Guns:	4—5·1 inch, 4—3 inch, 6—47 mm.
Machinery:	4 sets diesels. B.H.P.: 3,200=15 kts.

Notes
In the Amur Flotilla. *Udarnyi* doubtful.

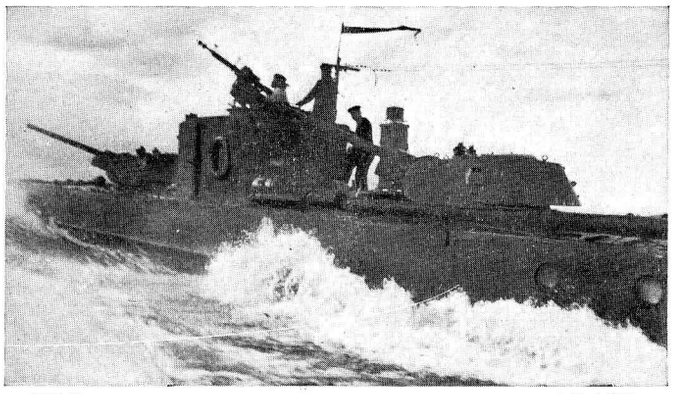
S. M. KIROV **IV. STALIN**

Dimensions:	170×34×6½ feet
Guns:	6—5·9 inch, 1—3 inch, 4—37 mm
Machinery:	Diesel=25 kts.
Complement:	45 to 50

Notes.
In the Amur Flotilla. Two triple 5·9 inch turrets, 2"—2¼" armour above waterline. 1"—1¼" below.

Recent Disposals
The very old ex-Austro-Hungarian river monitors *Ardeal* (ex-*Temes*), *Basarabia* (ex-*Inn*), and *Bucovina* (ex-*Sava*), and the river monitor ex-*Ion C. Bratianu*, of the ex-Roumanian Danube Flotilla, if they all still exist, can be only of doubtful military value. Full details of these ships are given in the 1957-58 edition.

MOTOR GUNBOATS



1125 Type — *Added* 1951

Improved BK Type

Displacement:	100 tons
Dimensions:	128 × 19 × 4⅔ feet
Guns:	2—3·9 inch, 2—37 mm. AA., 2—13 mm. M.G
Machinery:	Speed=25 kts

Notes
A new type of heavily armed gunboat reported to be in mass production. An improved version of the BK type.

BK Type

Displacement:	85 tons
Dimensions:	115 × 18 × 4½ feet
Guns:	2—3 inch, 1—37 mm. AA , 2—13 mm. M.G.
Machinery:	Speed=25 kts.

Notes
Displacement and dimensions given above are approximate.

Improved "1125" Type

Displacement:	70 tons
Dimensions:	100 × 17⅓ × 4¼ feet
Guns:	1—3·9 inch, 2 M.G.
Machinery:	Speed=25 kts.

Notes
A new type of armoured gunboat recently built and under construction. An improved version of the 1125 Type, see below, with a larger hull

Early "1125" Type

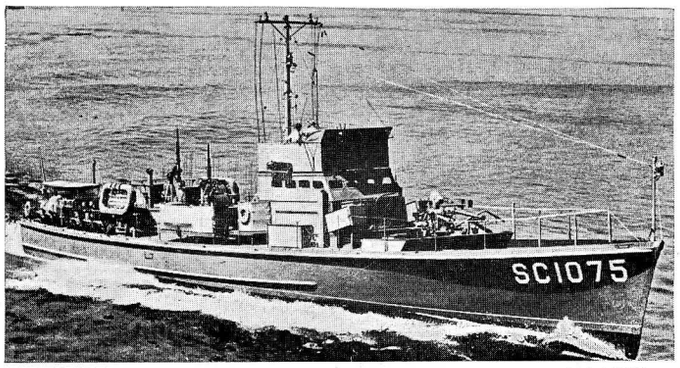
Displacement:	42 tons *standard*
Dimensions:	82 × 12½ × 3 feet
Guns:	2—12 pdr. (3 inch), 1 AA. M.G. (6 in some)
Machinery:	Speed=25 kts.

Notes
The two twelve-pounders are in tank-type turret (see photo). Launched in 1944 The speed of these craft is also reported as 28 kts.

Danube Motor Gunboats
Among the vessels in the Danube the type of craft most seen is a 30/40 tons motor gunboat with 1 rocket launcher (16 rockets) forward, and 3 light AA. guns aft.

Recent Disposals
The shallow draught armoured motor gunboats of the "1124" type are obsolete and are being discarded.

MOTOR LAUNCHES



Ex-SC 1075 — *Added* 1948

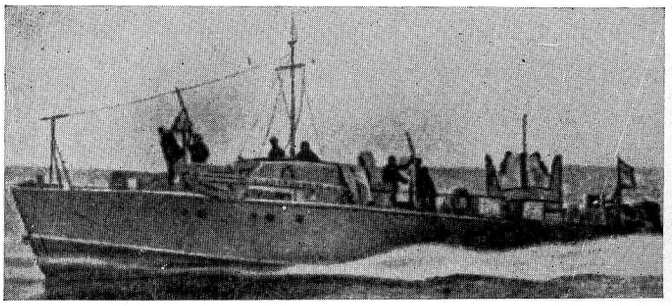
5 Ex-U.S. "SC" Type

Ex-SC 500 Ex-SC 643 Ex-SC 756 Ex-SC 1007 Ex-SC 1295 Ex-SC 1324 Ex-SC 1364

Displacement:	95 tons
Dimensions:	107½ (*w.l.*), 111 (*o.a.*) × 17 × 6½ feet
Guns:	1—40 mm. AA., etc.
Machinery:	2 sets diesels. 2 shafts. B.H.P.: 800=15 kts.
Complement:	28

Notes
BO (Bolshoi Okhotnik) U.S. Navy SC type including BO 315 and BO 328. (Large Cutter). Of the original 78 American submarine chasers of the SC type transferred from the United States to Russia during the Second World War under the terms of the lend-lease programme 4 were lost, 59 were destroyed and 10 were returned to the United States for disposal, with Russia retaining only 5 of the BO 1-46 series to purchase. Five of the above numbers are those retained. Two others (numbers not reported) were destroyed before U.S. observers in the Far East in 1956.

Motor Launches—*continued*



Added 1954

BM O Type

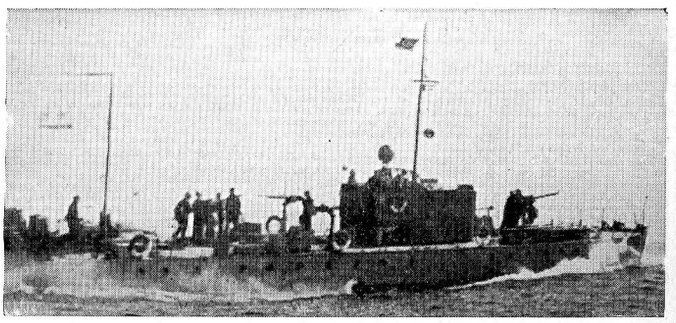
Displacement:	61 tons
Dimensions:	78¾ × 13¾ × 5½ feet
Guns:	1—37 mm. AA., 3—13 mm. AA
A/S weapons:	Depth charges
Machinery:	2 petrol engines. 2 shafts. B.H.P.: 2,600=23 kts.
Fuel:	6 tons petrol
Complement:	25

Notes
Launched in 1941.

6 MO 1 Type

Displacement:	51 tons
Dimensions:	85½ × 13⅛ × 4½ feet
Guns:	2—13 mm AA.
A/S weapons:	Depth charges
Machinery:	2 petrol engines. 2 shafts. B.H.P.: 1,300
Fuel:	5 tons
Complement:	21

Notes
Launched in 1939.



No. 201 — 1941, *Official*

12 VMV Type

Nos. 201-212

Dimensions:	82 × 13⅔ × 3¼ feet
Displacement:	30 tons
Guns:	2—47 mm.
Machinery:	B.H.P.: 1,120=25 kts.
Complement:	10

Notes
Motor vessels, similar to the Finnish VMV type. Launched in 1937-38.

BKM Type

Displacement:	20 tons
Dimensions:	57¾ × 12¾ × 4½ feet
Guns:	2—13 mm. AA.
A/S weapons:	Depth charges:
Machinery:	Petrol engines. 2 shafts. B.H P.: 1,650=32 kts.
Complement:	10

PK Type

Displacement:	23 tons
Dimensions:	74 × 13⅓ × 4½ feet
Guns:	1—13 mm. AA., 2 M.G.
A/S weapons:	Depth charges
Machinery:	Petrol engines. 2 shafts. B.H.P.: 1,650=28 kts.
Complement:	12

TK Type

Displacement:	20 tons
Dimensions:	78¾ × 12¾ × 3⅔ feet
Guns:	1—13 mm. AA., 2 M.G
A/S weapons:	Depth charges
Machinery:	Petrol engines. 2 shafts. B.H.P.: 1,650=23 kts.
Complement:	12

MKM Type

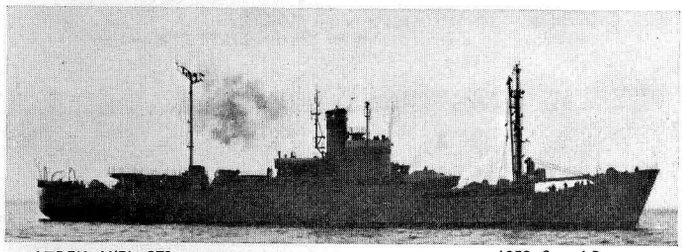
Displacement:	18 tons
Dimensions:	53 × 10½ × 4 feet
Guns:	1—13 mm. AA., 1 M.G.
A/S weapons:	Depth charges
Machinery:	Petrol engines. 2 shafts. B.H.P.: 900=18 kts.
Complement:	9

ZK Type

Displacement:	19 tons
Dimensions:	64⅓ × 11 × 4 feet
Guns:	2 M.G.
A/S weapons:	Depth charges
Machinery:	Petrol Engines. 2 shafts. B.H.P.: 2,600=25 kts.
Fuel:	12 tons
Complement:	12

Recent Disposals
The three old motor launches of the "MO 2" type and the three old motor launches of the "MO 4" type are obsolete on account of their age and it is reported that they are being scrapped.

DEPOT SHIPS



ATREK, V(B) -272 — 1959, *Sergei Romanov*

6 Advanced Submarine Parent Ships

AMBURAN **ARARAT** **ATREK** **AYAT**

Displacement:	3,500 tons *standard*
Measurement:	3,258 tons *gross*
Dimensions:	336 × 49 × 20 feet
Machinery:	Speed = 13 kts.

Notes...
Advanced submarine parent ships. Converted to naval use from "Kolomna" class freighters. There are a total of six of these vessels employed as submarine tenders and replenishment ships. *Atrek*, fitted with radar homing beacons, is reported to be comprehensively equipped for servicing nuclear powered submarines and ballistic missile submarines.

PAYSHERD (ex-*Otto Wunche*)

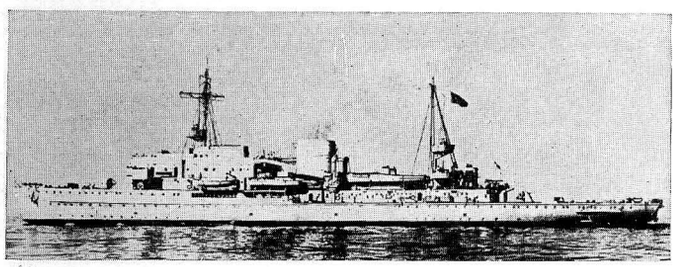
Displacement:	4,730 tons
Dimensions:	433 × 52½ × 14½ feet
Guns:	4—4·1 inch, 2—37 mm., 12—20 mm.
Machinery:	4 diesels. 2 shafts. B.H.P.: 12,400 = 20 kts.

Notes
Ex-German. *Paysherd* was built by Howaldt, Kiel. Launched in 1941.

KUBAN (ex-*Waldemar Kophamel*)

Displacement:	4,726 tons
Dimensions:	146 × 52½ × 14½ feet
Guns:	2—4·1 inch, 2—37 mm. AA.
Machinery:	4 MAN diesels. 2 shafts. B.H.P.: 12,400 = 20 kts.

Notes
Ex-German. Launched in 1939. Submarine tender. Salvaged in 1950-51 after being sunk in shallow water by bombing during the Second World War. Underwent repairs and reconditioning 1951-1957 and is in service.

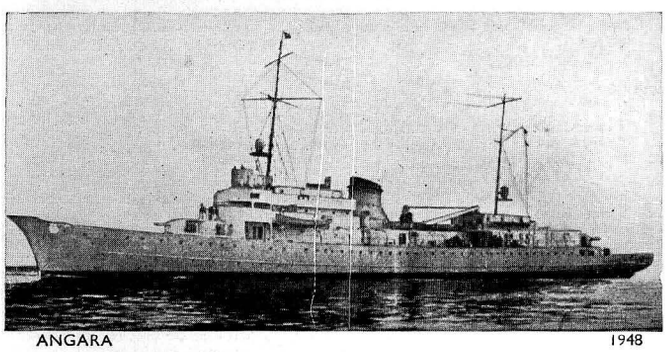


ADOLF LUDERITZ

Ex-ADOLF LÜDERITZ

Displacement:	3,615 tons
Dimensions:	374 × 47½ × 14 feet
Guns:	4—4·1 inch, 2—37 mm., 12—20 mm.
Machinery:	4 diesels. B.H.P.: 12,400 = 20 kts.

Notes
Launched in 1939. Was employed by Germans as depot ship for motor torpedo boats. M.T.B. parent ship. In the Baltic.



ANGARA — 1948

ANGARA (ex-*Hela*)

Displacement:	2,300 tons
Dimensions:	323 × 42½ × 11 feet
Guns:	2—4·1 inch, 1—37 mm. AA., 2—20 mm. AA.
Machinery:	4 MAN diesels. 2 shafts. B.H.P.: 6,300 = 18 kts.

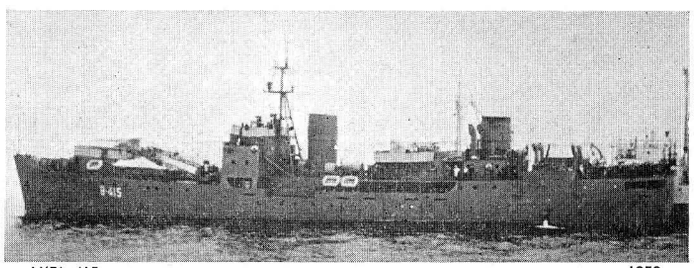
Notes
Former yacht built by Stülcken, Hamburg. Launched in 1939. In the Black Sea.

SMOLENSK

Displacement	6,000 tons
Dimensions:	314½ (*pp.*), 331 (*o.a.*) × 46 × 19½ feet
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,500 = 11 kts.
Coal:	625 tons
Complement:	130

Notes
Launched in 1931. Squadron supply ship. Measurement: 4,200 tons *gross*. In the Far East.

Depot Ships—*continued*



V(B) 415 — 1959

4 Missile Range Ships

CHUKOTKH **SAKHALIN** **SIBIR** **SUCHAN**

Measurement:	*Chukotkh* 3,800 tons *gross*, *Sakhalin* and *Sibir* 3,767 tons *gross*, *Suchan* 3,710 tons *gross*
Dimensions:	493½ × 56 × — feet (ships vary)
Guns:	6—45 mm. AA., 2 M.G.
Machinery:	Triple expansion. 2 shafts. I.H.P.: 3,300 = 12 kts.

Notes
Converted Russian merchant vessels employed as missile range ships in the Pacific. *Sakhalin* and *Sibir*, reported to be of almost equal size, have three bubble-like domes forward and aft, and both carry helicopters. *Suchan*, somewhat smaller, is also equipped with a helicopter flight deck as in *Sakhalin* amd *Sibir*. Launched in 1930. *Sibir* was formerly a depot ship for M.T.B.'s and coastal craft.

IRTYSH (ex-*Kronstadt*)

Displacement:	5,800 tons
Dimensions:	328 × 46 × 19½ feet
Guns:	4—3 inch, 3—45 mm. AA., 2 M.G.
Machinery:	Triple expansion. 1 shaft. I.H.P.: 1,500 = 12 kts.
Coal:	430 tons
Complement:	240

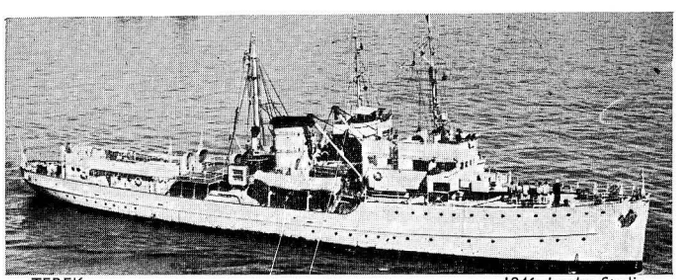
Notes
Parent ship and general supply vessel for submarines in the Baltic. Launched in 1931.

SARATOV

Notes
Submarine tender and depot ship of the "Anadyr" class.

USA

Notes
Refrigerator cargo ship and depot ship.



TEREK — 1946, *London Studio*

TEREK (ex-*Elbe*)

Displacement:	1,600 tons
Dimensions:	189 × 27¼ × 10¼ feet
Guns:	1—3·5 inch, 1—20 mm. AA.
Machinery:	2 sets Linke-Hofmann-Busch 6-cyl. 4-stroke diesels. 2 shafts. B.H.P: 1,600 = 15 kts.
Complement:	48

Notes
Launched in 1931. Ex-German. Fishery protection depot ship. In the Black Sea.

SMOLNYI

Displacement:	4,800 tons *standard*
Dimensions:	331½ × 45¼ × 12½ feet
Guns:	5—45 mm. AA.
Machinery:	Reciprocating engines. 1 shaft. I.H.P.: 2,500 = 12 kts.
Complement:	148

Notes
Submarine repair tender and supply ship. Launched in 1929. In the Baltic.

EMBA (ex-*Ilmatar*)

Displacement:	2,350 tons
Dimensions:	269 × 41⅝ × 23⅔ feet
Machinery:	Speed: 14 kts.

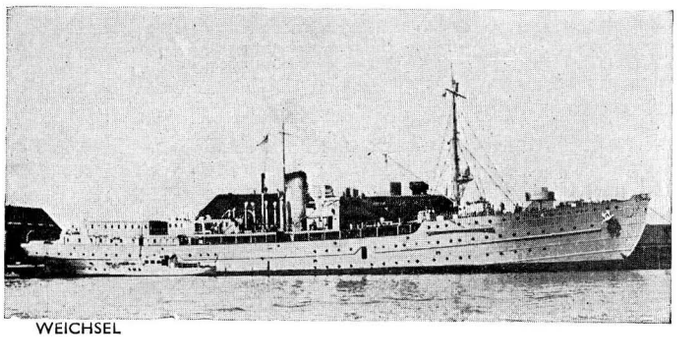
Notes
Launched in 1929. Mercantile measurement of this ship is 4,000 tons *gross*.

VOLGA (ex-*Juan Sebastian De Elcano*, ex—)

Displacement:	9,300 tons
Dimensions:	459 × 56 × 21½ feet
Guns:	2—3 inch, 3—45 mm. AA., 5 M.G.
Machinery:	Parsons turbines. 2 shafts. S.H.P.: 5,500 = 14 kts.
Oil fuel:	1,090 tons
Complement:	260

Notes
Built by Echevarrieta and Larrinaga, Cadiz. In the Black Sea. The Russian name as a merchant ship is not known, but she was probably immediately incorporated in Russian Navy.

Depot Ships—*continued*



WEICHSEL

Ex-**WEICHSEL** (ex-*Syra*)

Displacement:	3,974 tons
Dimensions:	309¼ × 44 × 13½ feet
Guns:	4—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 1,400=10·5 kts.
Boilers:	2 watertube
Coal:	425 tons
Complement:	135

Notes
Depot ship for submarines. Built by Howaldt, Kiel. Launched in 1923. In the Baltic.

NEVA (ex-*Essequibo*)

Displacement:	13,300 tons
Dimensions:	450¼ (*pp.*), 466 (*o.a.*) × 57⅔ × 24¼ feet
Guns:	3—3 inch, 6—45 mm. AA., 8 M.G.
Machinery:	Quadruple expansion. I.H.P.: 5,800=15 kts.
Oil fuel:	960 tons
Complement:	340

Notes
Launched in 1914. Fleet cargo ship and replenishment tender. In the Black Sea.

PRIMORYE (ex-*Hai Yen*, ex-*Bulga*, ex-*Signal*)

Displacement:	4,000 tons
Dimensions:	262½ × 36 × 14½ feet
Machinery:	Triple expansion. I.H.P.: 940=9 kts.
Coal:	400 tons
Complement:	60

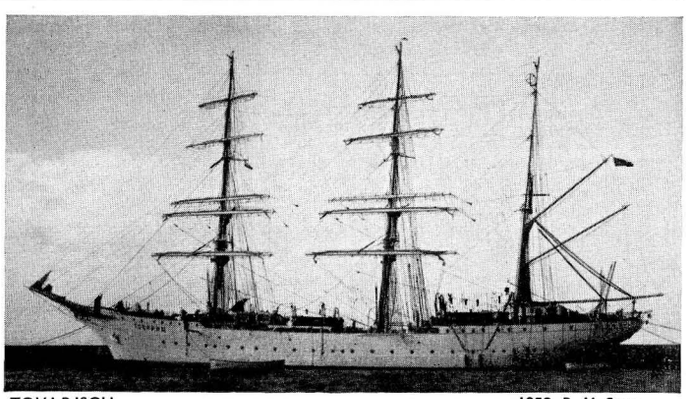
Notes
Launched in 1903. General depot and repair ship and supply vessel. In the Black Sea.

POLYARNAYA ZVEZDA

Displacement:	5,000 tons
Dimensions:	349 × 46 × 17½ feet
Guns:	3—3 inch, 3—45 mm. AA., 2 M.G.
Machinery:	M.A.N. diesel. 2 shafts. B.H.P.: 1,200=10 kts.
Oil fuel:	225 tons

Notes
Launched on 31 May 1890. Re-engined in 1936. Ex-Imperial Yacht, rebuilt in 1936-37. Parent ship to submarines in the Baltic.

TRAINING SHIPS



TOVARISCH 1958, *R. M. Scott*

TOVARISCH (ex-*Gorch Foch*)

Displacement:	1,350 tons
Dimensions:	242¾ × 39⅓ × 15 feet
Guns:	2—20 mm. AA.
Machinery:	MAN diesels. B.H.P.: 520=8 kts.
Oil fuel:	25 tons
Radius:	3,500 miles at 8 kts.
Complement:	260

Notes
Barque. Ex-German training ship. Built by Blohm & Voss, Hamburg. Launched in 1933. Sail area: 2,150 sq. yds.

Other training ships reported:

ENISEJ

PRAKTIKA (ex-*Passat*)

TOBOL

UCHEBA (ex-*Mousson*)

Displacement: 300 tons

Notes
Three masts. In the Baltic. Sailing vessels for training cadets, boys and volunteers. There are about ten three-masted schooners of 300 tons with one square sail on the foremast of the same class as the *Praktika* and *Ucheba*, built in Finland. They are described as very nice little ships.

Training Ships—*continued*

NYEMAN (ex-*Isar*, ex-*Puma*)

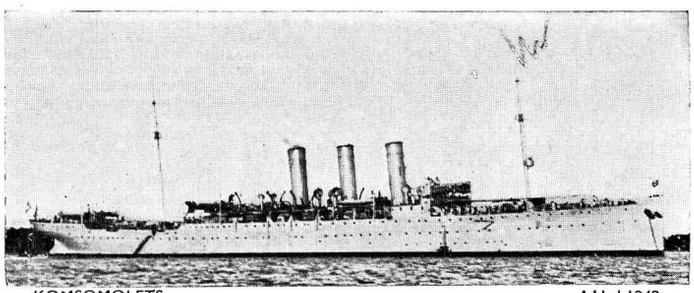
Displacement:	3,850 tons
Dimensions:	319 × 45½ × 13 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 2,000=12 kts.

Notes
Built by Bremen-Vulcan. Launched in 1930. Converted merchant vessel. Former Depot Ship for submarines. Now a Training ship in the Baltic. *Nyeman* is the name of a river in Western Russia.

Ex-**CRISTOFORO COLOMBO**, Ex-Z18

Displacement:	2,787 tons
Dimensions:	218 (*pp.*) × 48½ × 20⅓ feet
Sail area:	18,700 sq. ft.
Machinery:	2 Tosi diesels with electric drive to 2 Marelli motors. 2 shafts. H.P.: 1,600=10 kts.
Oil fuel:	103 tons
Radius:	6,000 miles at 8 kts.

Notes
Built at Castellammare. Launched on 4 Apr. 1928. Assigned to Soviet Navy by Italian Peace Treaty. Delivered to Russia, Feb. 1949.

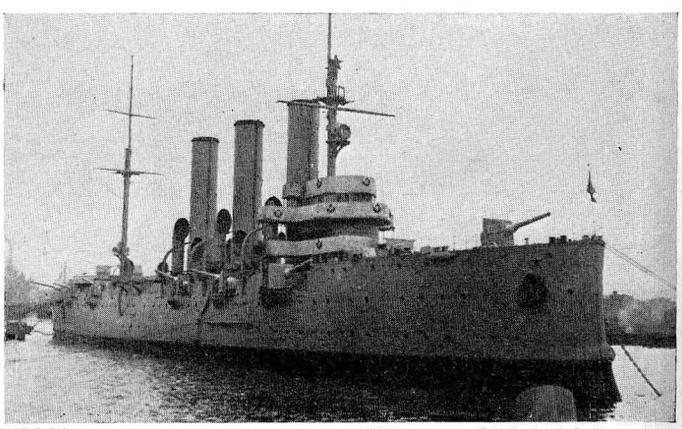


KOMSOMOLETS *Added* 1948

KOMSOMOLETS (ex-*Okean*)

Displacement:	11,900 tons *standard*
Dimensions:	468⅔ × 55½ × 25 feet
Machinery:	Triple expansion. 2 shafts. I.H.P.: 11,000=18 kts.
Boilers:	4, of different types
Complement:	289

Notes
Built by Howaldt Dockyard, Kiel. Launched in 1902. Training ship for engineers and stokers. In service in the Baltic and still steams. She has been refitted with only two funnels, instead of three (the second funnel having been removed).



AURORA 1958, *courtesy Col. D. de C. Smiley*

AURORA

Dimensions:	410 × 55 × 21¼ feet
Guns:	10—5·1 inch, 55 cal., 4—3 inch AA.

Notes
Former cruiser. Launched in 1900. Still in service as training ship for cadets at Leningrad. But she is more famous to the Russians as the ship from which the first round of the October Revolution was fired. As such she is shown to all who visit Leningrad under Intourist supervision.

Recent Disposals
The very old training ship *Leningradski Soviet* (ex-*Vernyi*) is worn out and of no use at sea. The same applies to the two very old coastguard vessels *Dozornyi* and *Razvedchik*, the ex-German battleship *Tsel* (ex-*Hessen*) formerly used as a wireless controlled target ship, the ex-German torpedo boat *Vystrel* (ex-*Blitz*, ex-*T 185*, ex- *V 185*) used for wireless target control of the ex-*Hessen*, and the four target towing tugs *Khorek*, *Kunitsa*, *Laska* and *Vydra*. Full details of these ships are given in the 1957-58 and earlier editions.

KRASNOYE ZNAMYA (ex-*Khrabryi*)

Displacement:	1,740 tons
Guns:	5—5·1 nch, 55 cal., 3—45 mm. AA.
Armour:	5″ belt,1″ deck, 1″ C.T.
Machinery:	Triple expansion. I.H.P.: 2,100=14 kts.
Oil fuel:	
Boilers:	6

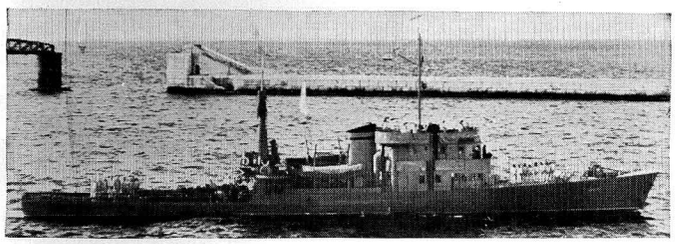
Notes
Launched on 21 Nov. 1895. Hull of extremely strong construction. Excellent sea-boat. Represents an extraordinary concentration of power in small man of war. Three times rebuilt and rearmed. Sunk by Finnish MTB in the battle of Lavansaari, Gulf of Finland, autumn 1942, salved by Russians, repaired and entirely rebuilt, ram removed, large modern bridgework, light tripod mast, large streamlined funnel added Subsequently served as flagship of Rear-Admiral commanding MTB Flotillas in the Baltic. Now used as a gunnery training ship. Illustration in the 1957-58 edition.

AIRCRAFT TENDERS

AERONAVT (ex-*Falke*

Displacement:	2,040 tons
Dimensions:	322½ × 46 × 6⅔ feet
Machinery:	2 shafts. H.P.: 1,800=12 kts

Notes
Ex-German. Built by Stülkenwerff. Launched in 1942. Equipped with a catapult. In the Baltic.



KODOR 1948

KODOR (ex-*Gunter Pluschow*)

Displacement:	375 tons
Dimensions:	176⅓ × 27¼ × 8⅔ feet
Machinery:	Diesels. 2 shafts. B.H.P.: 3,200=19 kts.
Oil fuel:	50 tons
Radius:	4,500 miles at 15 kts.
Complement:	30

Notes
Ex-German aircraft tender acquired and renamed. Built by Norderwerft, Hamburg. Completed on 14 Apr. 1935. In the Black Sea.

GUNBOATS

ARDAGAN **KARS**

Notes
Built near Leningrad in 1950 for the Caspian Sea Squadron of the Russian Navy.

KRASNAYA ABKHAZIYA **KRASNAYA GRUZIYA**
KRASNAYA ARMENIYA (ex-*Krasnyi Krym*) **KRASNYI ADZHARISTAN**

Displacement:	1,100 tons
Dimensions:	Draught: 3 feet forward, 9 feet aft
Guns:	2 or 3—5·1 inch, 2—3 inch AA., 2—45 mm., 2—13 mm., M.G.
Mines:	248 to 300
Machinery:	Triple expansion. I.H.P.: 640 to 750=9 kts.
Oil fuel:	150 tons

Notes
Launched in 1916. In the Black Sea. Though they are fitted for minelaying they are not specially built minelayers, but auxiliary gunboats—converted landing vessels armed with guns during the Russian civil war of 1918-22. Photograph of *Krasnaya Abkhaziya* in the 1957-58 edition.

KRASNYI AZERBAIDZHAN (ex-*Trotsky*, ex-*Ardagan*) **LENIN** (ex-*Kars*)

Displacement:	700 tons
Dimensions	203 × 28½ × 9½ feet
Guns:	3—4 inch, 2—45 mm. AA., 2—37 mm. AA., 4 M.G.
Machinery:	Diesel. B.H.P.: 2,200=11 kts.
Complement:	126

Notes
Launched 1909. Both in Caspian Sea. The 3 auxiliary gunboats of the "Moskva" type have reverted to merchant vessels.

RIVER GUNBOATS

AKTIVNYI

Displacement:	750 tons
Dimensions:	236 × 27 × 5½ feet
Guns:	2—4 inch, 4—45 mm. AA., 6 M.G.
Machinery:	2 sets diesels. B.H.P.: 1,600

Notes
In the Amur Flotilla

ZHELEZNYAKOV

Displacement:	240 tons
Dimensions:	157½ × 25 × 4½ feet
Guns:	2—4 inch, 3—45 mm. AA., 2—37 mm. AA.
Machinery:	2 sets diesels. B.H.P.: 300

Notes
In the Danube Flotilla.

Ex-**BIEDNOTA** (ex-*Vogul*) **KRASNYI BURYAT** (ex-*Buryat*)
KRASNYI MONGOL (ex-*Mongol*) Ex-**RABOTCHI** (ex-*Kiryiz*)
KRASNYI MORYAK (ex-*Korel*) **TREVOGA** (ex-*Votyak*)

Displacement:	190 tons
Dimensions.	164 × 27 × 2 feet
Guns:	2—3 or 4·7 inch, 1—4·8 inch (122 mm.) howitzer, 2 M.G.
Machinery:	H.P.: 500=11 kts.
Fuel:	145 tons

Notes
Launched in 1907. In the Amur Flotilla. If still in service have been renamed. The majority of the river flotilla of the former Manchurian Navy is believed to be in Soviet hands. Photograph of *Krashyi Mongol* in the 1957-58 edition.

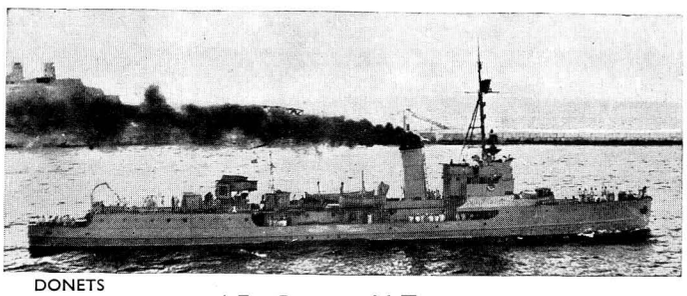
NADYOZHNYI (ex-*Drochanin*)

TENDERS

2 Torpedo Recovery Ships

TSL 24
Notes
Ex-Japanese destroyer of the "Matsu" class employed as a torpedo recovery ship. Pennant No. TSL 24.

TSL 64
Notes
Ex-Japanese destroyer of the "Temzuki" class employed as a torpedo recovery ship. Pennant No. TSL 64.



DONETS

4 Ex-German M Type

Ex-**508** (ex-*Delphin*, ex-*M* 108) Ex-**535** (ex-*Gazelle*, ex-*Hela*, ex-*M* 135)
Ex-**530** (ex-*Fuchs*, ex-*M* 130) **DONETS** (ex-**560**, ex-*Hecht*, ex-*Hille*, ex-*M* 60)

Displacement:	350 tons (525 tons *full load*)
Dimensions:	183¾ X24¼X7¼ feet

Notes
Launched in 1918-19. *Deflin* was built by Tecklenborg, Geestemuüde, *Fuchs* by Reiherstreg, Hamburg, *Hille* by Seebeck, Geestemuüde. Transferred to Russia in 1945. It is reported that ex-*Hille* is renamed *Donets*. Used as training ships. *Donets* is in the Black Sea

No. 16 **No. 107** **No. 172** **No. 243**
Notes
Auxiliary type vessels of the above numbers reported.

ADLER **BALAKLAVA** **VAJGACH**
Notes
General utility naval vessels for fleet tender duties.

LANDING SHIPS

10 Russian LST Type

Displacement:	850 tons
Guns:	8—37 mm. AA.
Machinery:	Diesels. B.H.P.: 4,000=15 kts.

Notes
A new type of landing ship basically similar to the British and American LST type.

4 Russian LCG Type

Displacement:	550 tons
Guns:	4—37 mm. AA., 10 rockets
Machinery:	2 shafts. S.H.P.: 1,200=12 kts.

Notes
A new type of landing ship or landing craft corresponding to the American LSMR type.

LANDING CRAFT

Russian LCT Type

Displacement: 300 tons

Notes
A new type of landing craft basically similar to the British LCT type.

Russian LC Type

55 115 133 146 148 252 723 729 740 946
113 121 134 147 250 590 725 738 798 964

Displacement:	150 tons
Dimensions:	115 × 36 × 5 feet
Machinery:	Speed=10 kts.

Notes
Carry three tanks. A new Russian class of landing craft, corresponding to the American LCT type.

3 Italian MZ Type

MZ 778 **MZ 780** **MZ 781**

Displacement:	140 tons
Guns:	1—20 mm. AA.
Machinery:	Speed: 9 kts.

Notes
Ceded by the Italian Peace Treaty. 778 and 781 were delivered to Russia on 30 June 1949.

18 Ex-German AFP Type

5 10 11 14 20 26 27 33 42 46 65 74 77 79 80 81 100 102

Displacement:	150 tons
Machinery:	Speed: 10·5 kts.

Notes
All launched in 1941-44.

2 Ex-German MFP-D Type

1049 **1103**

Displacement:	230 tons
Machinery:	Speed: 11 kts.

Notes
Both launched in 1944.

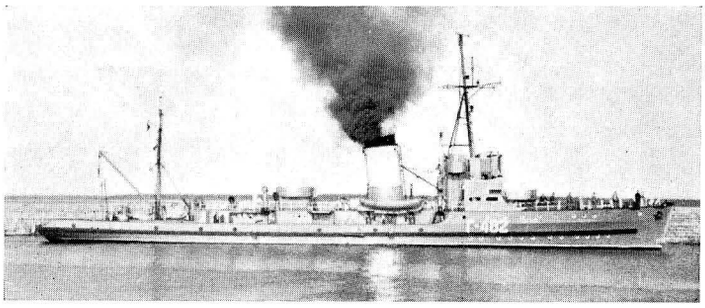
46 Ex-German MFB-A/C Type

108 169 214 223 265 286 390 457 606 875
109 187 220 239 267 287 391 490 821 876
112 188 221 240 268 319 400 571 840 921
114 204 225 246 269 384 425 600 867 976
166 208 226 258 271 385

Displacement:	165 tons
Machinery:	Speed: 10·5 kts.

Notes
All launched in 1941-44. There are many more captured and refloated ex-German landing craft.

SURVEYING VESSELS



G 482 *Erich Gröner*

G 402 **G 482**

Displacement: 550 tons *standard* (750 tons *full load*)
Dimeusions: 202×28×9 feet
Machinery: Triple expansion. Exhaust turbine. IH.P.: 2,150=16 kts.
Boilers: 2 Schulz

Notes
G 402, G 482 and some other ex-German minesweepers are used as surveying vessels.

ALIDADA **GIDROSTAT** **OLEG KOSHEVOI**
EKHOLOT **LT. SHMIDT** **PRIBOI**
VARIOMETR

Notes
Pennant Nos. G-165, G-199, G-15, G-151, G-169, G-084 and G-160, respectively.

4 "Gidro" Class (Ex-Fleet Minesweepers)

GIDROFON **GIDROMTR** **GIDROSKOP** **GORIZONT**

Displacement: 650 tons *standard* (945 tons *full load*)
Dimensions: 180 (*w.l.*), 184½ (*o.a.*)×33×10 (*max.*) feet
Machinery: Diesels. 2 shafts. B.H.P.: 1,440=15 kts.
Complement: 100

Notes
Former United States steel-hulled fleet minesweepers of the "Admirable" class (see earlier page under Fleet Minesweepers) converted into surveying ships. Pennant numbers G-140, G-145, G-142 and G-139, respectively.

GIDROLOG **SORAKORAM** **VAL**

Notes
Former Japanese "Kaibokan" class converted into surveying ships. Pennant numbers G-111, G-127 and G-108, respectively.

G-71 **G-089** **G-110** **G-117** **G-138**

Notes
The above are the pennant numbers of surveying vessels reported, names unknown.

OST **VEST** **ZUID**

Displacement: 640 tons
Dimensions: 187×30½×12 feet
Guns: 2—3 inch, 4—45 mm. AA., 2—13 mm. M.G.
Mines: 100
Machinery: 2 sets diesels. 2 shafts. B.H.P.: 600=9 kts.
Fuel: 50 tons
Complement: 100

Notes
Small icebreakers on minelaying or surveying duties. All in the White Sea. Sister ship *Nord* was lost.

CHUKCHA

Displacement: 2,700 tons
Dimensions: 246×43½×14 feet
Guns: 2 M.G.
Machinery: Triple expansion. I.H.P.: 900=10 kts.
Fuel: 900 tons coal
Complement: 55

Notes
In the White Sea.

LEBEDJ

Displacement: 1,100 tons
Dimensions: 180½×29⅜×16 feet
Guns: 1—37 mm. AA., 2 M.G.
Machinery: Triple expansion. I.H.P.: 680=12 kts.

Notes
In the White Sea.

OKEAN

Displacement: 1,500 tons *standard* (3,000 tons *full load*)
Guns: 3—5·1 inch, 2—3 inch
Mines: 150
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,400=15 kts.

Notes
Former minelayer now employed as a surveying vessel. Pennant No. G 098.

KAMCHADEL **PARTIZAN** **POLYARNYI**

Displacement: 1,300 tons
Dimensions: 210×32¾×11 feet
Guns: 2—4 inch, 2 M.G.
Machinery: Triple expansion. I.H.P.: 700=9·5 kts.
Fuel: 400 tons coal
Complement: 80

Notes
Partizan and *Polyarnyi* were both launched in 1937. In the Far East. Pennant Nos. G-121, G-124 and G-075, respectively.

Ex-**MEREPOEG**

Displacement: 90 tons
Machinery: Speed: 10 kts.

Notes
Ex-Estonian. Small surveying craft. Launched in 1937.

GIDROGRAF (ex-*Hydrografs*)

Displacement: 600 tons
Machinery: Speed: 10 kts.

Notes
Ex-Latvian surveying vessel and tender. Launched in 1918.

KOMPAS

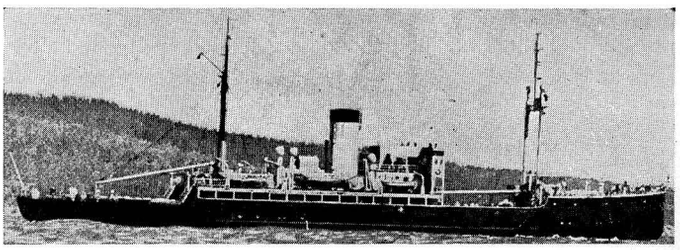
Displacement: 415 tons
Machinery: Speed: 7 kts.

Notes
Ex-Estonian. Surveying vessel and general utility ship. Launched in 1918.

GPB-21 **GPB-40** **GPB-86** **GPB-90** **GPB-285** **GPB-297**
GPB-22 **GPB-85** **GPB-88** **GPB-91** **GPB-288** **GPB-452**

Notes
Surveying boats of above pennant numbers, but no names reported.

Surveying Vessels—*continued*



OKHOTSK *Added 1955*

OKHOTSK

Displacement: 3,200 tons *full load*
Dimensions: 265⅜×42½×18½ feet
Guns: 3—5·1 inch, 2—3 inch, 2 M.G.
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,400=14 kts.
Complement: 160

Notes
Launched in 1938. In the Far East. Former minelayer converted into a surveying ship. Pennant No. G. 104.

EKVATOR (ex-*Meteor*)

Displacement: 1,200 tons
Dimensions: 219½×33½×12½ feet
Guns: 1—3·5 inch, 1 M.G.
Machinery: 2 sets 8-cyl 4-stroke Diesels. 2 shafts. B.H.P.: 2,200=14·5 kts.

Notes
Built by Kaiserliche Werft, Danzig. Launched on 18 Jan. 1915. Name means "Equator." Refitted in East Germany in 1957.

AZIMUT

Displacement: 420 tons
Dimensions: 144½×28½×11 feet
Machinery: Speed=11 kts.

Notes
Swedish built. Launched in 1914. Fitted with a reinforced stern for icebreaking.

GALS

Displacement: 540 tons
Dimensions: 121¼×25×11 feet
Machinery: Triple expansion. I.H.P.: 240=8 kts.
Fuel: 45 tons coal

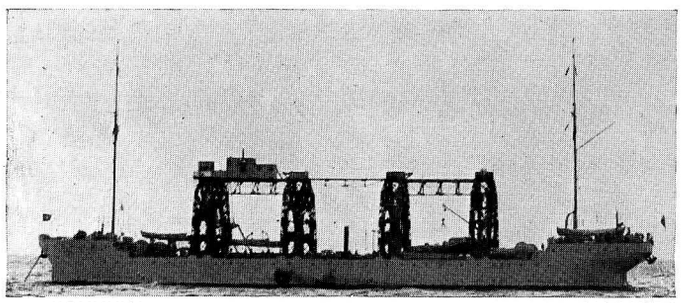
BAROGRAF

Displacement: 260 tons
Dimensions: 92×19×12½ feet
Machinery: Triple expansion. I.H.P.: 425=7·5 kts.
Complement: 19

ZENIT

Notes
Name means "Zenith." The very old surveying vessel *Trefolyer* is worn out (see full particulars and photograph in the 1957-58 and earlier editions).

REPAIR SHIPS



KOMMUNA *Added 1955*

KOMMUNA (ex-*Volkhov*)

Displacement: 2,400 tons
Machinery: Diesels. 2 shafts

Notes
Old submarine salvage vessel. Launched in 1913. Double hull. After having been out of commission for many years she was towed to Vlissingen by Russian tugs on 26 May 1950, to be refitted and modernised at De Schelde Yard, Flushing, Netherlands. Towed back to Russia in July 1951.

UMBA (ex-*Keret*)

Displacement: 1,400 tons
Dimensions: 195½ (*pp.*), 200 (*o.a.*)×30×12 feet
Guns: 5—54 mm. AA., 2 M.G.
Machinery: Triple expansion. I.H.P.: 825=10 kts.
Complement: 80

Notes
Launched in 1910.

ELBRUS

Displacement: 2,600 tons
Dimensions: 302×39×13½ feet
Guns: 2—3 inch, 1—45 mm. AA.
Machinery: Diesel-electric. H.P.: 2,800=13 kts.
Oil fuel: 180 tons
Complement: 150

Notes
In the Black Sea.

FISHERY PROTECTION VESSEL

VOROVSKI (ex-*Yaroslavna*, ex-yacht *Lysistrata*)

Displacement: 2,300 tons
Dimensions: 285 (*pp.*), 315 (*o.a.*)X40X18 feet
Machinery: Triple expansion. 2 shafts. H.P.: 3,500=18 kts.
Guns: 2—4·7 inch, 2—3 pdr., 2 M.G
Complement: 100

Notes
Built by Wm. Denny & Bros. Ltd., Dumbarton. Launched in 1900. In the Far East.

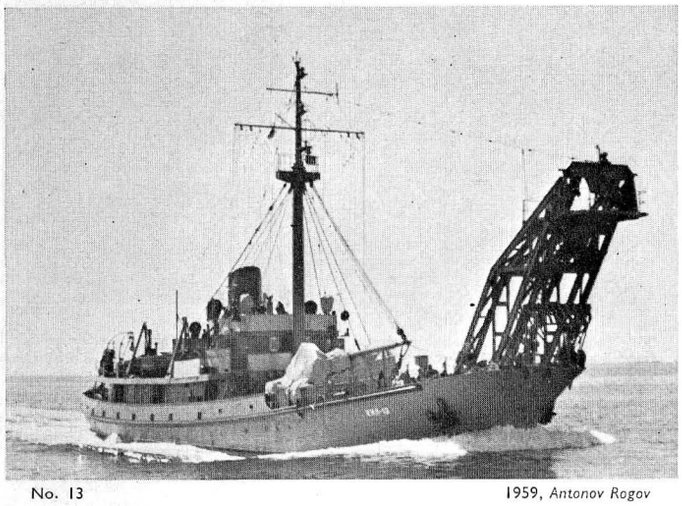
SALVAGE VESSELS

4 "Pamir" Class

AGATAN **ALDAN** **PAMIR**

Measurement: 1,443 tons *gross*
Dimensions: 219½ (*pp.*), 238½ (*o.a.*) × 38½ × 12 feet
Machinery: Two 10 cyl. 4 str. diesels. 2 shafts. B.H.P.: 4,200=17 kts.

Notes
New and modern salvage tugs built at A.B. Gävle Varv, Sweden, in 1959-60. Equipped with strong derricks, powerful pumps, air compressors, diving gear, fire fighting apparatus and electric generators.



No. 13 1959, *Antonov Rogov*



MB 24 *Photo. A. Kull*

MB 24 **MB 25** **MB 26**

Displacement: 835 tons
Dimensions: 134½ (*w.l.*), 143 (*o.a.*) × 34 × 15 feet
Guns: 1—3 inch d.p., 2—20 mm. AA.
Machinery: 2 B.M. diesels. 2 electric motors. 2 shafts. B.H.P.: 1,875=14 kts.
Oil fuel: 187 tons
Complement: 34

Notes
Salvage and rescue tugs. Built by Levingstone Shipbuilding Co., Orange, Texas, U.S.A. Launched in 1944. Ex-United States ATAs (Ocean Rescue Tugs). In the Baltic.

SIGNAL

Displacement 680 tons
Machinery: Speed: 14 kts.

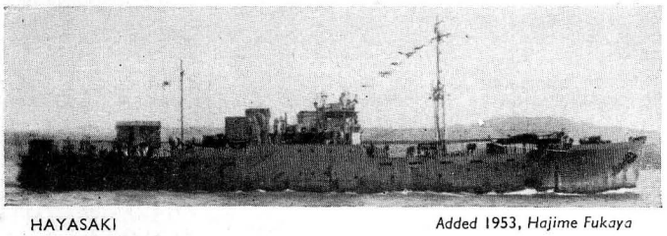
Notes
Launched in 1936. Fitted with powerful pumps and other apparatus for salvage. In the Baltic.
Other numbers reported are A 2, 480, 481, 490, 495, 515, 525, 580, 610, 612, 621 and €€3. Salvage vessels are designated MSB.

WATER CARRIERS

Ex-**BASENTO** Ex-**ISTRIA** Ex-**LIRI** Ex-**POLCEVERA**

Notes
Small water carriers ceded under Italian Peace Treaty. *Volodei* was in very bad condition in 1950 when she went for overhaul, and she is not worth further repairing.

TRANSPORTS



HAYASAKI *Added 1953, Hajime Fukaya*

Ex-**HAYASAKI**

Displacement: 950 tons
Measurement: 2,166 tons *gross*
Dimensions: 190¾ (*pp.*), 194¾ (*w.l.*), 204½ (*o.a.*) × 30⅝ × 10½ feet
Guns: 1—3·1 inch, 2—25 mm., 2—13 mm. AA.
Machinery: 2 diesels. B.H.P.: 1,600=15 kts.

Note
Built at Sakurajama. Launched in 1943. Formerly the first Japanese refrigeration ship.

Transports—*continued*

P-6 **P-7** **P-11** **P-13** **P-15** **P-35** **P-252** **P-368**

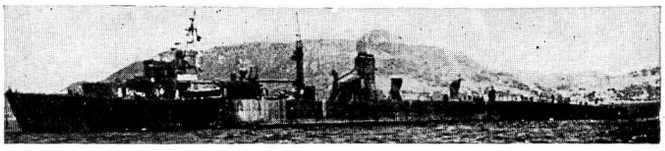
Notes
Transports of the above pennant numbers are reported, but no names.

KAMCHATKA **MONGOL**

Notes
"Lake" class. Pennant numbers P-380 and P-242, respectively

ISHIM **OLEKMA** **SHILKA**
OB **OLGA** **USSURIJ** (ex-*Okhotsk*)
VISHERA

Notes
Pennant Nos. P-247 (*Ob*), P-250 (*Olekma*), P-274 (*Shilka*), P-365 (*Ussurij*), P-379 (*Vishera*). *Olekma* (also rendered as *Olenkna*) is ex-Japanese "Kisak" class. *Olga* and *Ishim* are Coast Guard transports.

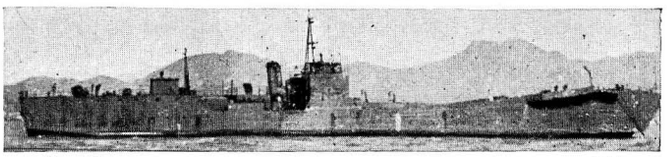


No. 13 1948

Ex-**No. 13**

Displacement. 1,800 tons
Dimensions: 315 (*o.a.*) × 33½ × 12 feet
Guns: 2—5·1 inch, 26—25 mm. AA., 5 M.G., 42 D.C.
Machinery: Turbine. S.H.P.: 9,500=22 kts.
Boilers: 2

Notes
Former Japanese. Cargo capacity 500 tons for landing 480 marines.



No. 137 1948

Ex-**No. 137**

Displacement: 1,129 tons
Dimensions: 264 (*o.a.*) × 30 × 10¼ feet
Guns: 1—3·9 inch, 21—25 mm. AA., 12 D.C.
Machinery: Turbine. S.H.P.: 2,500=16 kts.

Notes
Former Japanese. Cargo capacity, 218 tons, plus 674 tons of fuel. Accommodation for 120 marines.

Ex-**MONTECUCCO** (ex-*KT 32*)

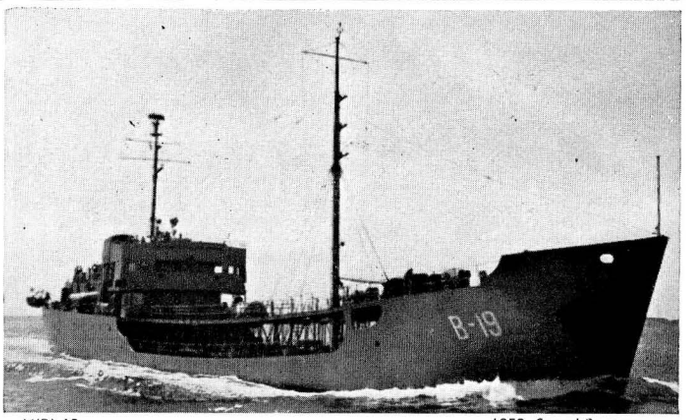
Measurement: 834·4 tons *gross*
Dimensions: 221¾ × 39½ × 9 feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 2,200=12 kts.
Coal: 160 tons

Notes
Former Italian. Built by Ansaldo. Launched on 19 Dec. 1942. Ceded under the Peace Treaty. Delivered to Russia on 23 May, 1949.

General Notes
Many warships are used as transports from time to time without being specifically designated as such. And ships of the Merchant Navy are requisitioned for naval service as required, used for special operations, and eventually returned to mercantile service.

Recent Disposals
The transports *Leningrad Soviet* and *Sovietski Soyus* have reverted to the Merchant Navy

FLEET OILERS



V(B)-19 1959, *Sergei Romanov*

ALATYR **JAHROMA** **KRASNOFLOTETS** **ROSSOSH**
IRBIT **KRASNOARMEETS** **POLYARNIK**

Note
Pennant Nos.: P-393 (*Alatyr*), P-256 (*Irbit*), P-260 (*Polyarnik*), P-384 (*Rossosh*) and P-355 (*Krasnoflotets*). The latter is a Coast Guard tanker.

P-264 **P-268** **P-352** **P-380** **P-384**

Notes
Fleet oilers of the above numbers are reported, but no names.

KONDA **VOLKHOV**

Notes
Volkhov of Leningrad or *Kazbek* class taken over by the Navy as an oiler.

Ex-**STIGE**

Displacement: 1,343 tons
Dimensions: 173½ × 30½ × 13 feet
Guns: 1—4·7 inch, 1—3 inch AA.
Machinery: Tosi diesel. B.H.P.: 650=7 kts.

Notes
Petrol Carrier. Built at La Spezia. Launched in 1924.

EREVAN

Displacement: 3,500 tons

Note
In the Far East.

Ex-**KÄRNTEN**

Measurement: 5,660 tons *gross*
Guns: 1—4·1 inch. 4—20 mm. AA.
Machinery: Speed: 12 kts.

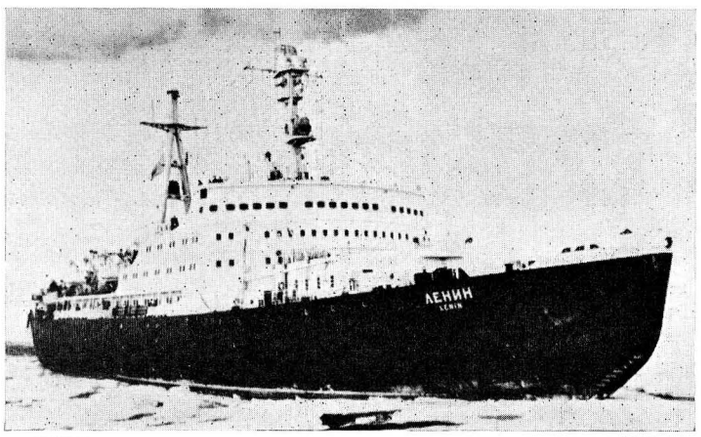
Note
Ex-German tanker, now Fleet oiler. Illustration in the 1951-52 to 1959-60 editions.

ICEBREAKERS

1 New Construction. Nuclear Powered

Displacement:	25,000 tons
Dimensions:	525 × 82 × 29 feet
Machinery:	Nuclear reactors and steam turbines=25 kts.

Notes
Largest icebreaker ever designed. Nuclear powered. In the early stages of construction.



LENIN 1960

1 Large Nuclear Powered Type

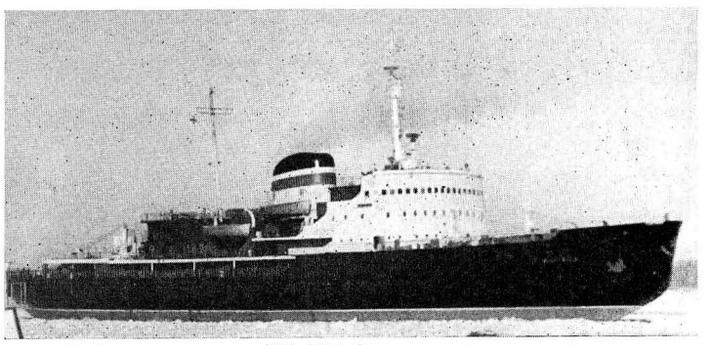
LENIN

Displacement:	16,000 tons
Dimensions:	440 × 90½ × 25 feet
Aircraft:	2 helicopters
Machinery:	3 pressurised water cooled atomic reactors and 4 steam turbines. 3 shafts (no shaft in bow). S.H.P.: 44,000=18 kts. (*max.*) (see *Engineering Notes*)

General Notes
The world's first nuclear powered surface ship to put to sea. Built at the Kirov Elektrosila Works, Leningrad. Launched on 2 Dec. 1957. Completed and commissioned on 15 Sep. 1959 when she sailed on her maiden voyage into the Baltic. Dimensions also reported as 425 (*o.a.*) × 85 feet and 435 × 89 feet. Reported to have accommodation for 1,000 personnel.

Engineering Notes
The atomic reactors will enable her to steam for eighteen months without refuelling. The fuel consumption is reported to be only five ounces daily. The turbines were manufactured by the Kirov plant in Leningrad. There are three propellers aft, but no forward screw. The shaft horse power is also reported as 18,000 (normal cruising) and 56,000 (maximum).

Operational Notes
With her reinforced prow she is able to force a 100 ft. wide ice-free swathe and move continually through solid pack ice 8 feet thick at 3 to 4 knots.



MOSKVA 1960, *Wärtsilä-Koncernen A/B Sandvikens Skeppsdocka*

3 Large Diesel Powered Type

LENINGRAD **MOSKVA**

Displacement:	12,840 tons *standard*, 15,340 tons *full load*
Dimensions:	368¾ (*w.l.*), 400¾ (*o.a.*) × 80½ × 31 (*normal*), 34½ (*max.*) feet
Machinery:	Diesel-electric. 3 shafts. S.H.P.: 22,000=18·3 kts.
Oil fuel:	3,000 tons
Range:	20,000 miles

General Notes
Largest diesel-electric icebreakers in the world. Designed to stay at sea for a year without returning to base. Built by Wärtsilä-Koncernen A/B, Sandvikens Skeppsdocka, Helsinki. The concave dent in the ship's stern is a housing for the bow of a following vessel when additional power is required. There is a landing deck for helicopters and hangar space for two machines. *Moskva* was launched on 10 Jan. 1959 and completed in June 1960. *Leningrad* was laid down a few days after, launched on 24 Oct. 1959, and will be completed at the end of 1960. The third ship will be completed in 1962.

Engineering Notes
These three ships have eight generating units of 3,250 B.H.P. each comprising eight main diesel motors of the Wärtsilä-Sulzer 9 MH 51 type which together have an output of 26,000 electric H.P. Four separate machinery compartments. Two engine rooms, four propulsion units in each. Three propellors aft. No forward propeller. Centre propeller driven by electric motor of 11,000 H.P. and each of the side propellers by motors of 5.500 H.P. Two Wärtsilä-Babcock & Wilcox boilers.

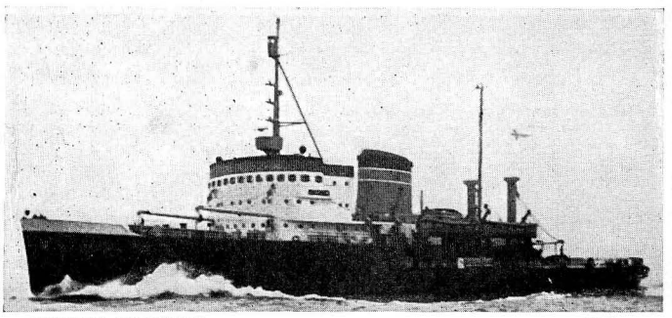
Operational Notes
Moskva has four pumps which can move 480 metric tons of water from one side to the other in two minutes to rock the icebreaker and wrench her free of thick ice.

POLLUKS (ex-*Pollux*)

Displacement:	4,500 tons
Dimensions:	262½ × 63 × 23 feet
Machinery:	Triple expansion. I.H.P.: 6,000=13 kts.
Boilers:	4

Notes
Built in the Netherlands by Smit, Rotterdam, in 1943. It is not confirmed whether she has completely changed her German name.

Icebreakers—*continued*



KAPITAN BELOUSOV 1955

3 "Kapitan" Class

KAPITAN BELOUSOV **KAPITAN MELECHOV** **KAPITAN VORONIN**

Displacement:	4,375 to 4,415 tons
Dimensions:	265 (*w.l.*), 263 (*o.a.*) × 63⅔ (*max.*) × 23 feet
Machinery:	Diesel-electric. 6 Polar 8 cyl. diesels. B.H.P.: 10,500=16·5 kts.
Oil fuel:	740 tons

Notes
Kapitan Belousov was laid down at the end of 1952 and completed in Sep. 1954. All built by Wärtsilä-Koncernen A/B, Sandvikens Skeppsdocka, Helsinki. The ships have four screws, two forward under the forefoot and two aft.

Name	*Measurement*	*Launched*	*Completed*
Kapitan Belousov	5,360 tons *gross*	1954	1955
Kapitan Melechov	4,000 tons *gross*	19 Oct. 1956	1957
Kapitan Voronin	3,416 tons *gross*	1955	1956

ALIOSHA POPOVICH (ex-German *Eisvogel*)

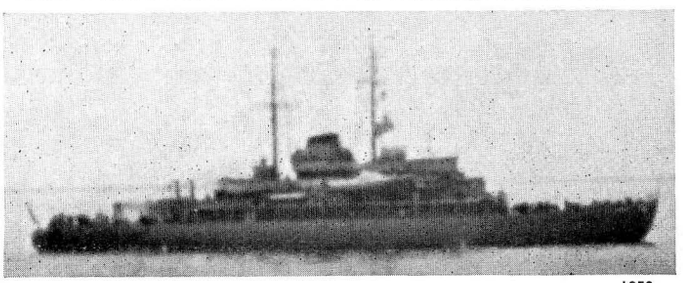
Displacement:	2,090 tons
Dimensions:	200 × 49½ × 21⅔ feet
Machinery:	2 Triple expansion. I.H.P.: 3,200=13·5 kts.
Boilers:	1

Notes
Former German icebreaker. Built by Aalborgs. Launched in 1941. In the White Sea. (*Purga*, ex-icebreaker, is reported to have been rearmed as an escort vessel.)

ILIYA MUROMETS (ex-German *Eisbar*)

Displacement:	1,918 tons
Dimensions:	180½ × 49½ × 21⅔ feet
Machinery:	Triple expansion. I.H.P.: 1,600=15 kts.
Boilers:	1

Notes
Former German icebreaker. Built by Eriksberg, Gothenborg, and launched in 1941.

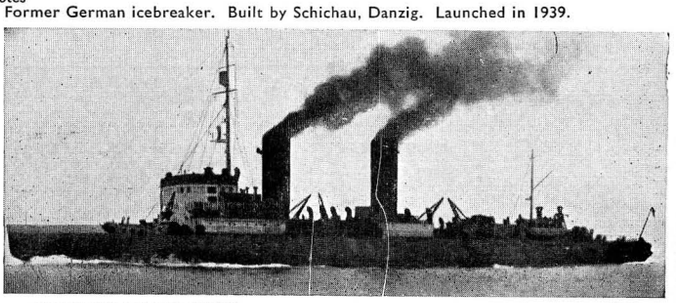


1959

PERESVET (ex-*Castor*)

Displacement:	5,150 tons
Dimensions:	295½ × 69 × 22 feet
Machinery:	Triple expansion. 3 shafts. I.H.P.: 9,600=15 kts.
Boilers:	4 Wagner

Notes
Former German icebreaker. Built by Schichau, Danzig. Launched in 1939.



VYACHESLAV MOLOTOV 1948

4 "Stalin" Class

ADMIRAL LAZAREV (ex-*Yosif Stalin*) **LAZAR KAGANOVICH**
ADMIRAL MAKAROV (ex-*Vyacheslav Molotov*) **MIKOYAN** (ex-*Otto Schmidt*)

Displacement:	11,000 tons
Measurement:	4,866 tons *gross*
Dimensions:	335¾ (*pp.*), 351 (*o.a.*) × 75½ × 22 feet
Machinery:	Triple expansion, with Diesel-electric propulsion for cruising. 3 shafts. H.P.: 10,050=15·5 kts.
Boilers:	9
Fuel:	4,000 tons coal, and diesel oil
Complement:	142

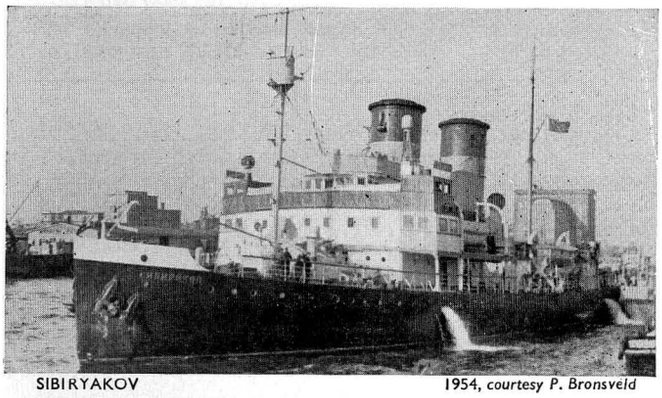
Notes
3 aircraft and 1 catapult were included in the design of these large and very powerful icebreakers. All are in the White Sea.

Name	*Builders*	*Launched*	*Completed*
Lazar Kaganovich	Baltic Works, Leningrad	30 Apr. 1937	1938
Mikoyan	Nikolayev	1938	1939
Admiral Makarov	Baltic Works, Leningrad	8 Mar. 1939	1940
Admiral Lazarev	Baltic Works, Leningrad	14 Aug. 1937	1939

Icebreakers—*continued*

SEVMORPUT
Displacement: 6,000 tons
Machinery: 3 shafts. Speed: 11·5 kts.

Notes
Icebreaker of medium size and low power. Built at Leningrad. Launched in May 1937.



SIBIRYAKOV 1954, *courtesy P. Bronsveld*

SIBIRYAKOV (ex-*Jääkarhu*)
Displacement: 4,825 tons
Dimensions: 246×63×21 feet
Machinery: Triple expansion. 3 shafts. I.H.P.: 9,200=15 kts.
Boilers: 8. Oil fuel

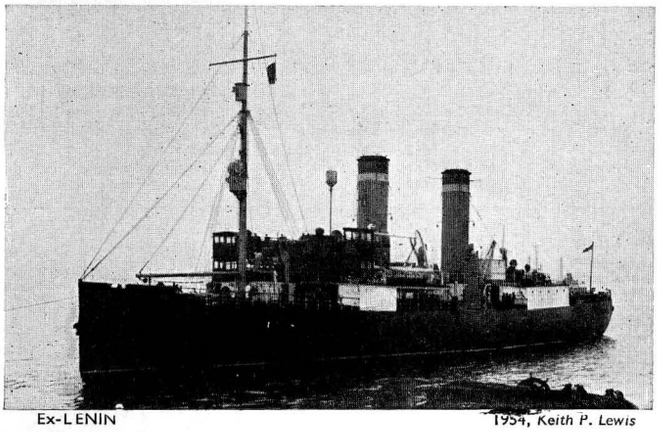
Notes
Built by Smit, Rotterdam, and launched in 1926. Formerly Finnish. (*Jääkarhu* means Icebear). Appropriated by Russia.

Ex-KRISJANS VALDEMARAS
Displacement: 2,800 tons
Measurement: 1,932 tons *gross*
Dimensions: 196½×55⅔×22 feet
Machinery: Triple expansion. I.H.P.: 5,200=15 kts.
Fuel: 350 tons coal
Complement: 55

Notes
Built by Beardmore and launched in 1925. Renamed now. Formerly a Latvian ship. Photograph in the 1957-58 and earlier editions.

KRASSIN (ex-*Sviatogor*)
Displacement: 9,300 tons
Measurement: 4,902 tons *gross*
Dimensions: 297 (*w.l.*), 323¼ (*o.a.*)×71×26 feet
Machinery: 3 sets triple expansion. 3 shafts. I.H.P.:10,000=15 kts.
Boilers: 10 single-ended
Fuel: 3,200 tons coal
Complement: 190

Notes
Large and powerful icebreaker. Built by Armstrong and launched in 1917. In the Baltic. Photograph in 1951-52 and earlier editions.



Ex-LENIN 1954, *Keith P. Lewis*

VLADIMIR ILYICH (ex-*Lenin*, ex-*Aleksandr Nevskii*)
Displacement: 6.260 tons
Measurement: 3,828 tons *gross*
Dimensions: 273 (*w.l.*), 281 (*o.a.*)×64×19 (*mean*), 20½ (*max.*) feet
Machinery: 3 sets triple expansion. 3 shafts. I.H.P.: 8,000=12 kts.
Boilers: 8
Fuel: 1,200 tons coal
Complement: 122

Notes
Built by Armstrong. Launched in 1917. Refitted on the Mersey in 1946-47. In the Baltic.

MALYGIN (ex-*Voima*)
Displacement: 2,070 tons
Dimensions: 210⅔×46½×16¾ feet
Machinery: Triple expansion. 1 shaft. I.H.P.: 4,100=13·5 kts.

Notes
Former Finnish icebreaker. Built by Sandvikens and launched in 1917. In the Baltic. Photograph in the 1957-58 and earlier editions.

STEPAN MAKAROV (ex-*Knyaz Pozharski*)
Displacement: 3,150 tons *standard*
Measurement: 2,156 tons *gross*
Dimensions: 236 (*pp.*), 248 (*o.a.*)×57×22f eet
Machinery: Triple expansion. 3 shafts. I.H.P.: 6,400=14·5 kts.
Boilers: 6
Fuel: 700 tons coal

Notes
Built by Swan, Hunter and Wigham Richardson, Ltd., Wallsend-on-Tyne, and launched in 1916. In the Black Sea. Photograph in the 1951-52 and earlier editions.

DOBRINYA NIKITICH
Displacement: 2,460 tons *standard*
Measurement: 1,664 tons *gross*
Dimensions: 200 (*pp.*), 211 (*o.a.*)×50½×20 feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 4,000=14 kts.
Boilers: 6
Fuel: 370 tons coal

Notes
Built by Swan, Hunter and Wigham Richardson, Ltd., Wallsend-on-Tyne, and launched in 1916. In the Far East. Photograph in the 1957-58 and earlier editions.

Icebreakers—*continued*

VOLYNETS (ex-*Suur Töll*, ex-*Vainamoinen*, ex-*Volynets*, ex-*Tsar Mikhail Fyodorovich*)
Displacement: 4,000 tons
Dimensions: 236½×57×18¾ feet
Machinery: 3 sets triple expansion. 3 shafts. I.H.P.: 5,800=13·5 kts.
Fuel: 800 tons coal

Notes
Former Estonian icebreaker. Launched in 1914. In the Baltic. Photograph in the 1957-58 and earlier editions.

SADKO (ex-*Lintrose*)
Displacement: 2,000 tons
Measurement: 1,613 tons *gross*
Dimensions: 255×37½×21 feet
Machinery: Triple expansion I.H.P.: 3,500=14 kts.
Boilers: 4

Notes
Built by Swan, Hunter and Wigham Richardson, Ltd., Wallsend-on-Tyne, and launched in 1913. Transferred from the Canadian Government Service in 1915. This ship was sunk during the First World War off the Arctic coast of Russia where she lay for many years until she was raised and refitted. In the White Sea. Photograph in the 1957-58 and earlier editions.

FYODOR LITKE (ex-*Kanada*, ex-*Earl Grey*)
Displacement: 3,400 tons
Measurement: 2,216 tons *gross*
Dimensions: 250 (*pp.*), 265 (*o.a.*)×48×17¾ (*mean*), 22½ (*max.*) feet
Machinery: Triple expansion. 2 shafts. I.H.P.: 6,000=17 kts.

Notes
Built by Vickers and launched in 1909. Transferred from the Canadian Government Service in 1915. Refitted on the Mersey in 1947-48. In the White Sea. Photograph in the 1951-52 and earlier editions.

TAIMYR
Displacement: 1,290 tons *standard*
Machinery: Speed: 10·5 kts.

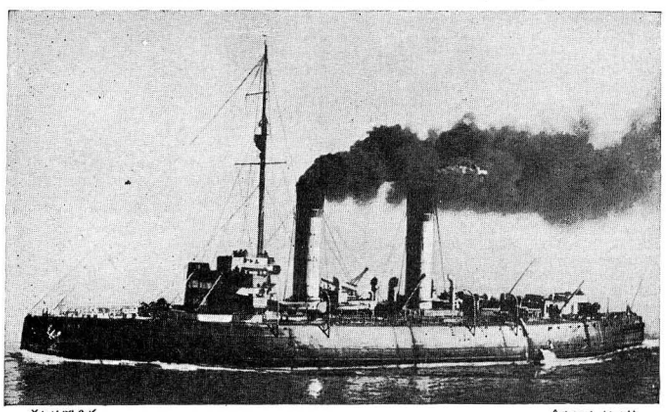
Notes
Small and low powered icebreaker. Launched in 1909. In the White Sea. Photograph in the 1951-52 and earlier editions.

GEORGII SEDOV (ex-*Beothic*) **VLADIMIR RUSANOV** (ex-*Bonaventure*)
Displacement: 3,217 tons
Measurement: 1,383-1,588 tons *gross*
Dimensions: 240½×36×16½ feet
Machinery: Triple expansion. I.H.P.: 3,000=13·5 kts.
Fuel: 500 tons coal

Notes
Built in 1909, by D. & W. Henderson & Co. and by Napier & Miller, respectively. Both purchased in 1915. In the White Sea. In 1939 *Georgii Sedov* achieved a record latitude in her ice-bound drift northward.

MONTCALM
Measurement: 3,270 tons
Measurement: 1,432 tons *gross*
Dimensions: 245×40½×15¾ feet
Machinery: 2 sets triple expansion. 2 shafts. I.H.P.: 3,225=14 kts.
Boilers: 4 Babcock & Wilcox
Fuel: 425 tons coal

Notes
Built by Napier & Miller and launched in 1904. Transferred from the Canadian Government Service in 1942. In the Far East. It is doubtful if this ship is still operating.



YERMAK Added 1948

YERMAK
Displacement: 8,800 tons
Measurement: 4,955 tons *gross*
Dimensions: 305 (*pp.*), 320 (*o.a.*)×71½×25 (*mean*), 28 (*max.*) feet
Machinery: 3 sets triple expansion. 3 shafts aft and 1 forward. I.H.P. 9,500=14 kts.
Boilers: 10 S.E.
Fuel: 2,100 tons coal
Complement: 112

Notes
Built by Armstrong and launched in 1898. Name is that of the conqueror of Siberia. Refitted in Antwerp in 1949-50. In the Baltic. This ship is now very elderly and may be scrapped in the near future.

General Notes
The majority of the above icebreakers are immensely strong in framing and scantlings, with exceptionally thick plating, and decks strengthened to permit guns being mounted in wartime.

Recent Disposals
The very old and small icebreaker *Davidov* (ex-*Krasnyi Oktyabr*, ex-*Nadyazhnyi*) is being discarded and replaced by a newer icebreaker.

FLEET TUGS

DUNAJ **NAEZDNIK** **TEREK** **TETYUHKE** **ZOLOTOI**

Notes
Pennant Nos. A 486, A 624, A 515, A 495 and A 612, respectively.

MB V-48 **MB V-72** **MB V-75** **MB V-118** **MB V-125** **MV B-146** **MB V-149**

Notes
All seagoing tugs are designated MB. Photograph in the 1959-60 edition.

CHF 1 **CHF 2** **CHF 3** **CHF 4** **CHF 5** **CHF 6** **CHF 7** **CHF 8** **CHF 9** **CHF 10** **CHF 11** **CHF 12** **CHF 13** **CHF 14** **CHF 15** **CHF 16** **CHF 17** **CHF 18** **CHF 19**

Notes
Letters painted on bows are initial letters of "Chernomorskii Flot," meaning "Black Sea Fleet." A photograph of CHF 19 appears in the 1959-60 edition.

MOROZ (ex-*Soldat*). Photograph in the 1959-60 edition.

General Notes
Under the Peace Treaty with Italy 8 large tugs, *Vigoroso*, *Capo d'Istria*, *Lampedusa*, *Rappallo*, *Porto Adriano*, *San Angelo*, *Talamone* and *Tifeo* were to be ceded.

VENEZUELA

Administration

Commandant of Venezuelan Naval Forces:
Contralmirante Carlos A. Larrazabal.

Chief of Naval Staff:
Capitán Navio Rafael Rosales Alvares
Encargado.

Naval Attaché in London:
Captain A. de Pedraza Pereira.

Planned New Construction

Programme includes 1 cruiser, 2 to 4 submarines and several minesweepers.

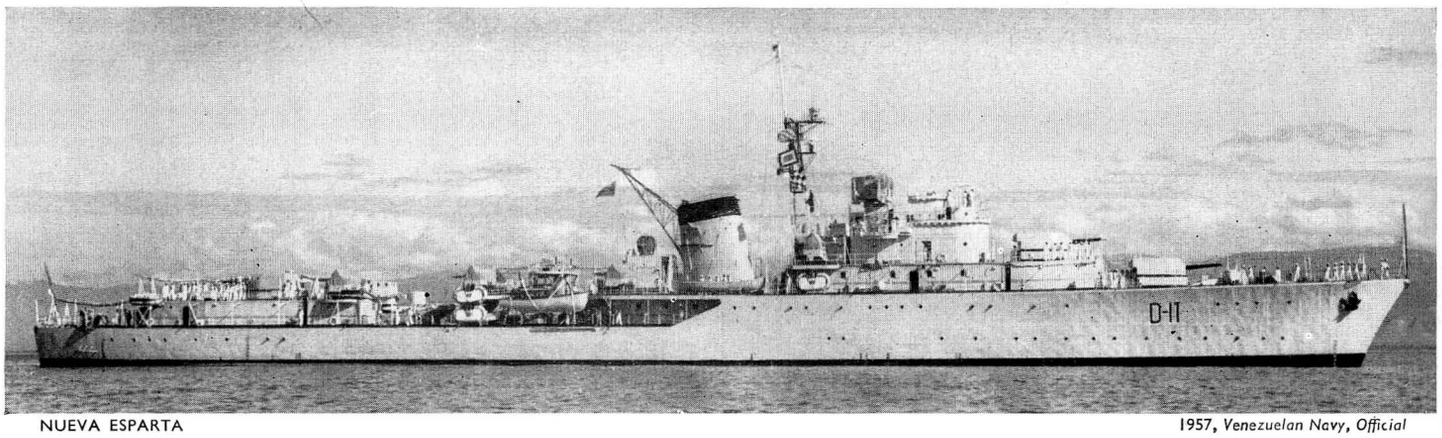
Personnel

1960: 3,000 officers and men

Mercantile Marine

Lloyd's Register of Shipping:
104 vessels of 251,097 tons *gross*

DESTROYERS



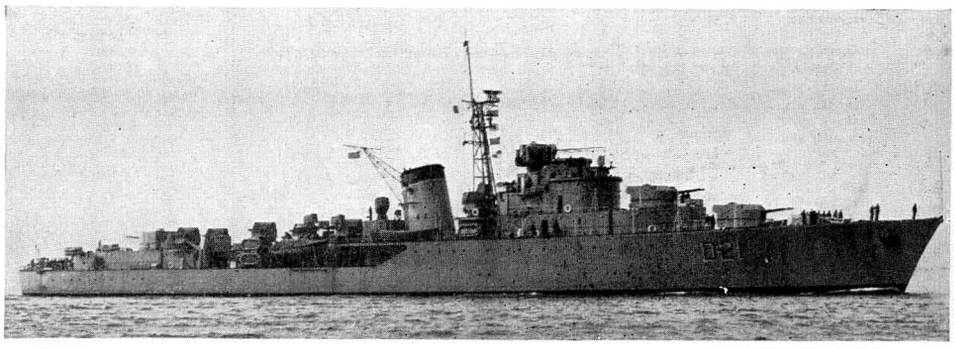
NUEVA ESPARTA — 1957, *Venezuelan Navy, Official*

3 British Vickers-Built "Nueva Esparta" Class

	ARAGUA	NUEVA ESPARTA	ZULIA
Displacement:	2,600 tons *standard* (3,300 tons *full load*)		
Dimensions:	402 (*o.a.*) × 43 × 12¾ (*max.*) feet		
Guns:	6—4·5 inch (twin), 16—40 mm. (twin)		
Tubes:	3—21 inch		
A/S weapons:	2 D.C.T., 2 D.C. racks. Squids in *Nueva Esparta* and *Zulia*, see *Notes*		
Machinery:	Parsons geared turbines. 2 shafts. S.H.P.: 50,000=34·5 kts.		
Boilers:	2		
Complement:	18 officers, 236 men		

Notes

All built in Great Britain by Vickers-Armstrongs, Barrow-in-Furness. *Nueva Esparta* and *Zulia* were ordered in 1950. Cost of these first two ships was £5,000,000. Air conditioned throughout, comprehensive electrical system. Two engine rooms and two boiler rooms served by a single uptake. Built on "Daring" class design layout and gun disposition, but appearance reminiscent of "Battle" class. The 4·5 inch guns are fully automatic. Ships are very spacious and roomy. *Nueva Esparta* and *Zulia* were refitted at the Palmers Hebburn Works of Vickers Armstrong (Shipbuilders) Ltd. in May—Dec. 1959, and armed with squid mortars.



ZULIA — *Added* 1957, *Wright & Logan*

Pennant No.	*Name*	*Laid down*	*Launched*	*Completed*
D 31	*Aragua*	29 June 1953	27 Jan. 1955	14 Feb. 1956
D 11	*Nueva Esparta*	24 July 1951	19 Nov. 1952	8 Dec. 1953
D 21	*Zulia*	24 July 1951	29 June 1953	15 Sep. 1954

FAST FRIGATES

(Light Destroyer Type)
6 Italian Ansaldo Built
"Almirante Clemente" Class

ALMIRANTE CLEMENTE
ALMIRANTE GARCIA
ALMIRANTE BRION
GENERAL DE AUSTRIA
GENERAL JOSÉ MORAN
GENERAL FLORES

Displacement:	1,300 tons for trials (1,550 tons *full load*) officially revised figures
Dimensions:	320¼ (*o.a.*) × 35½ × 8½ (trials) feet
Guns:	4—4 inch (102 mm.) AA. in two twin turrets, 4—40 mm. AA., 8—20 mm. AA.
Tubes:	3—21 inch
A/S weapons:	2 Hedgehogs or squid, 4 D.C.T.
Machinery:	2 sets geared turbines. 2 shafts. S.H.P.: 25,000=34 kts. (officially revised figures)
Boilers:	2 Foster Wheeler
Oil fuel:	350 tons
Radius:	3,500 miles at 17 kts (officially revised figures)
Complement:	162 (12 officers, 150 men)

General Notes

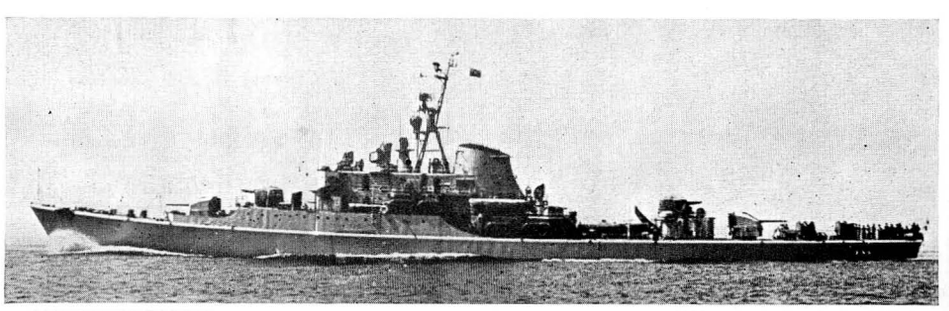
All built in Italy by Ansaldo, Leghorn. First three ordered 1953. Three more ordered in 1954. Aluminium alloys were widely employed in the building of all superstructure. All the ships are fitted with Denny-Brown fin stabilisers and air conditioned throughout the living and command spaces.

Gunnery Notes

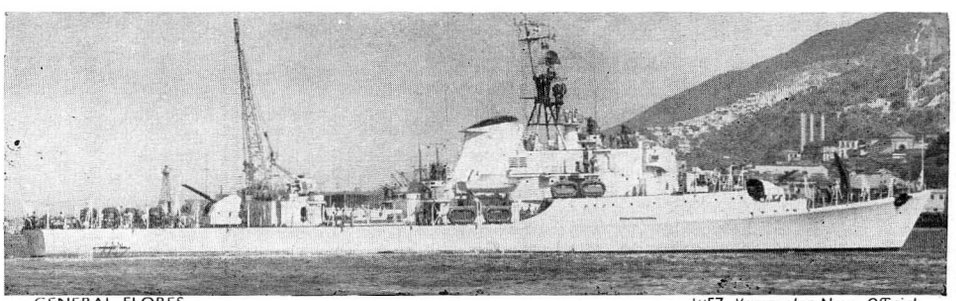
The 4 inch anti-aircraft guns are fully automatic radar controlled. First three ships returned to Italy for installation of fire control equipment and radar.

Photograph Notes

Photographs of *Almirante Clemente* and *General José Moran* in 1957-58 edition.



ALMIRANTE GARCIA — 1958, *courtesy Ing. Augusto Nani*



GENERAL FLORES — 1957, *Venezuelan Navy, Official*

Pen. No.	*Name*	*Laid down*	*Launched*	*Completed*
D 12	*Almirante Clemente*	5 May 1954	12 Dec. 1954	1956
D 22	*General José Moran*	5 May 1954	12 Dec. 1954	1956
D 13	*General Flores*	5 May 1954	7 Feb. 1955	1956
D 33	*Almirante Garcia*	12 Dec. 1954	12 Oct. 1956	1957
D 23	*Almirante Brian*	12 Dec. 1954	4 Sep. 1955	1957
D 32	*General de Austria*	12 Dec. 1954	15 July 1956	1957

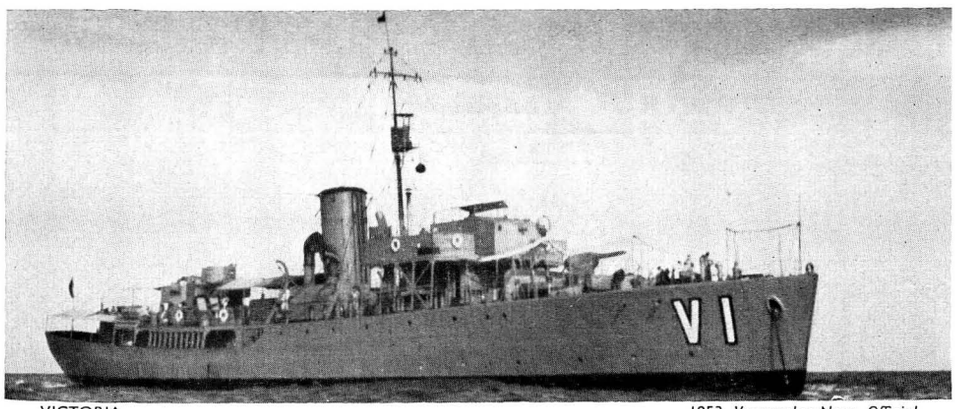
FRIGATES (*Corvettes*)

3 Ex-Canadian "Flower" Type "Constitucion" Class

CONSTITUCION (17 Dec. 1940) **C 12**
PATRIA (*ex-Oakville*, 1941) **C 13**
VICTORIA (ex-*Wetaskiwin*, 1941) **C 11**

Displacement:	1,060 tons *standard* (1,350 tons *full load*)
Dimensions:	205 (*o.a.*) × 33 × 14 feet
Guns:	1—4 inch (102 mm.), 1—3 inch (75 mm.), 2—20 mm. AA.
Machinery:	Triple expansion. I.H.P.: 2,750=17 kts.
Boilers:	2 Scotch type
Oil fuel:	230 tons
Radius:	4,500 miles at 10 kts.
Complement:	70

Notes
Former Canadian "Flower" type corvettes. Launch dates and pennant numbers above. *Carabobo* was lost on passage from Canada. *Libertad* ran aground off western Venezuela on 12 Apr. 1949 and was discarded. *Independencia* was stricken in 1953. *Federacion* was stricken in 1956.



VICTORIA — 1953, *Venezuelan Navy, Official*

SUBMARINE

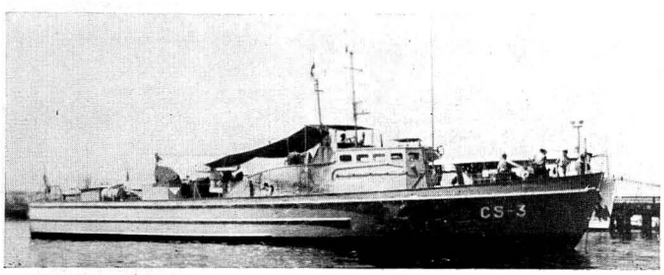
1 Ex-U.S. "Balao" Class

CARITE (ex-U.S.S. *Tilefish*, SS 307)

Pennant No.:	S 11
Builders:	Mare Island Naval Shipyard California
Launched:	25 Oct. 1943
Commissioned:	28 Dec. 1943
Displacement:	1,526 tons *standard*, 1,816 tons *surface* (2,425 tons *submerged*)
Dimensions:	312 (o.a.) × 27 × 17 feet
Tubes:	10—21 inch (6 bow, 4 stern)
Machinery:	Diesels. 2 shafts. B.H.P.: 6,400=20 kts. (*surface*). H.P.: 4,600=10kts. (*submerged*)
Oil Fuel:	300 tons
Radius:	12,000 miles at 10 kts.
Complement:	80

Notes
Former United States submarine of the "Balao" class. Purchased by Venezuela in 1960 after a 3—4 month overhaul in the United States. Transferred from the U.S. Navy at San Francisco on 4 May 1960.

PATROL LAUNCHES



BRICEÑO MÉNDEZ — 1952, *Venezuelan Navy, Official*

ANTONIO DIAZ (CS 1) **LC 11**
ARISMENDI (CS 4) **LC 14**
BRICEÑO MÉNDEZ (CS) 3) **LC 13**
FELIPE SANTIAGO ESTEVES (ex-*Brion*) (CS 2) **LC 12**

Displacement:	47 tons
Dimensions:	83 × 16 × 4 feet
Guns:	1—20 mm., 4 D.C.T.
Machinery:	2 petrol engines. 2 shafts. B.H.P.: 1,200=15 kts.
Complement:	10

Notes
All launched in 1937. Ex-U.S. Coast Guard cutters 56193, 56194, 56195, 56196, respectively. Acquired in 1944. Of wooden construction. *Brion* was renamed *Felipe Santiago Esteves* in 1957 when LC pennant numbers (above) were allocated.

LIGHT TRANSPORTS

3 New Construction

Displacement:	*circa* 3,000 tons
Machinery:	Speed: 17 kts.

Notes
Small troop carriers built by the Uraga Dock Co., Uraga, Japan, for Venezuela in 1958.

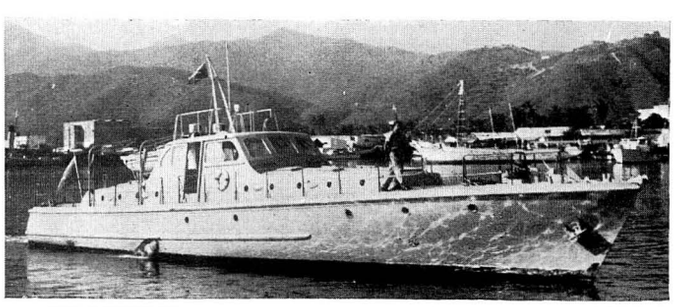

T 12 — 1956, *Venezuelan Navy, Official*

T 12 (ex-*Dos de Diciembre*)

Displacement:	944 tons
Dimensions:	234¼ (*o.a.*) × 33½ × 10 feet
Machinery:	2 Diesels. B.H.P.: 1,600=15 kts.
Radius:	2,250 miles

Notes
Launched by Chantiers Dubigeon, Nantes-Chantenay, France, in 1954. Light transport for naval personnel. Renamed *Transporte T 12* in 1958.

COAST GUARD VESSELS


RIO CABRIALES — 1956, *Venezuelan Navy, Official*

RIO APURE **RIO CABRIALES** **RIO GUARICO** **RIO NEVERI**
RIO ARAUCA **RIO CARONI** **RIO NEGRO** **RIO TUY**

Displacement:	38 tons
Dimensions:	82 × 15 × 4 feet
Machinery:	2 Mercedes-Benz M.B. 820 Bb diesels. 1,400 r.p.m. B.H.P.: 1,350=27 kts., 24—25 kts. cruising

Notes
All built by the Chantiers Navales de l'Estareles, Cannes, during 1954-56.

RIO SANTO DOMINGO

Displacement:	40 tons
Dimensions:	70 × 15 × 6 feet
Machinery:	2 General Motors. B.H.P.: 1,250

RIO TURBIO

Displacement:	40 tons
Dimensions:	81⅓ × 15 × 7½ feet
Machinery:	4 General Motors. B.H.P.: 880

GOLFO DE CARIACO

Displacement:	37 tons
Dimensions:	65 × 18 × 9 feet

Notes
There are also the survey launches *Caribe* and *Torbes*, and the repair launch *BT 1* (photographs in the 1955-56 edition, and full particulars in the 1959-60 and earlier editions).

TUGS

FELIPE LARRAZABAL (ex-U.S.S. *Discoverer*, U.S.C.G. *Auk*, AM 38)

Displacement:	840 tons *standard* (1,239 tons *full load*)
Dimensions:	174 (*w.l.*), 187⅜ (*o.a.*) × 35½ × 15 (*max.*) feet
Machinery:	2 Compound steam triple expansion. I.H.P.: 1,200=14 kts.
Boilers:	2 water tube. Working pressure 180 lb/sq. in.
Complement:	40

Note
Built by the Todd Shipyard Corporation, New York, in 1918-19. Pennant No. R 11. Photograph in the 1957-58 edition.

FERNANDO GOMEZ (ex-U.S.S. *Dadley*, YTM 744)

Displacement:	161 tons
Dimensions:	80 × 19 × 8 feet
Machinery:	Clark Diesel, 6-cylinder, 315 r.p.m. B.H.P.: 380=15 kts.
Complement:	10

Notes
Pennant No. R 12. Photograph in the 1957-58 edition. (The tugs *Esteban Rojas*, *Diana* and *Caracas* were stricken from the list in 1958.)

VIETNAM

Administration

The Vietnamese Navy (Ha Quin) was stablished on 1 Jan. 1955.

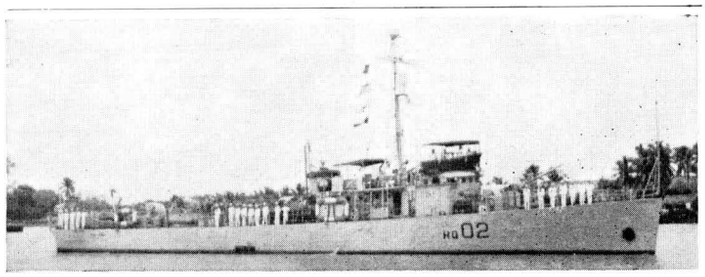
Chief of Naval Operations:

Commander Ho Tan Quyen

Personnel

1960: 5,280 officers and non-commissioned personnel (including Marine Corps)

PATROL VESSELS



DONG DA — 1960, *Vietnamese Navy, Official*

U.S. PC Type

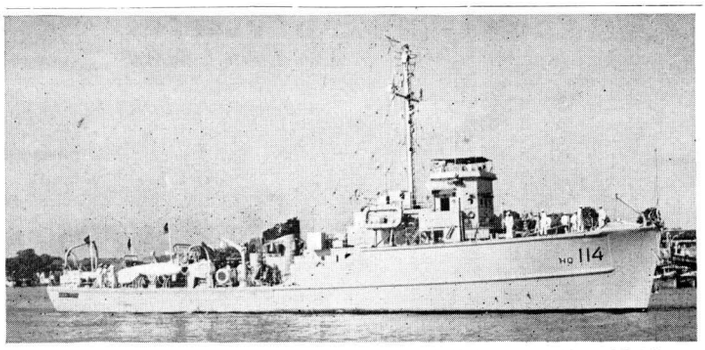
CHI LANG (ex-*Mousquet*, ex-*PC* 1144) **TUY DONG** (ex-*Trident*, ex-*PC* 1146)
DONG DA (ex-*Ardent*, ex-*PC* 1167) **VAN KIEP** (ex-*Intrépide*, ex-*PC* 1130)
TAY KET (ex-*Glaive*, ex-*PC* 1143)

Displacement:	280 tons (430 tons *full load*)
Dimensions:	170 (*w.l.*), 173¾ (*o.a.*) × 23 × 6½ feet
Guns:	1—3 inch d.p., 1—40 mm. AA., 5—20 mm. AA.
Machinery:	Diesel. 2 shafts. B.H.P.:2,800=20 kts.

Notes

Former French *escorteur cotiers*. *Chi Lang*, fleet flagship, (ex-French *P* 633) was transferred to the Vietnamese Navy on 16 June, 1955, others in 1956. Pennant Nos. HQ 01, 02, 03, 04, 05.

COASTAL MINESWEEPERS



HAM TU II — 1960, *Vietnamese Navy, Official*

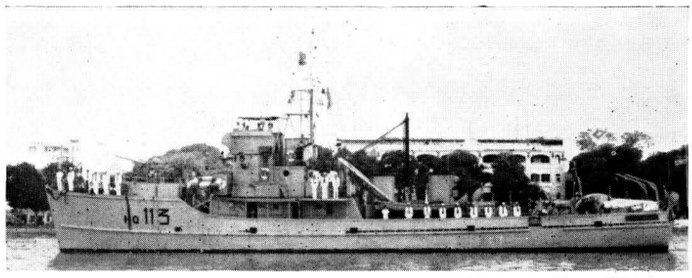
U.S. MSC Type

HQ 114 HAM TU II (ex-*MSC* 281) **HQ 115 CHUONG DUONG II** (ex-*MSC* 282)
HQ 116 BACH DANG II (ex-*MSC* 283)

Displacement:	320 tons *standard* (370 tons *full load*)
Dimensions:	138 (*pp*), 144 (*o.a.*) × 28 × 9 feet
Guns:	2—20 mm. AA.
Machinery:	2 diesels. 2 shafts. B.H.P.: 1,200=14 kts.

Notes

New construction United States coastal motor minesweepers of the " Bluebird " class, non-magnetic type, of wooden construction, transferred under the Mutual Defense Assistance Program in 1959 and 1960.



BACH DANG — 1960, *Vietnamese Navy, Official*

U.S. YMS Type

HQ 113 BACH DANG (ex-*Belledone*, ex-*D* 318, ex-*YMS* 78)
HQ 112 CHUONG DONG (ex-*Digitale*, ex-*D* 326, ex-*YMS* 83)

Displacement:	232 tons *standard* (270 tons *full load*)
Dimensions:	134½ × 24½ × 12 feet
Guns:	1—3 inch d.p., 2—20 mm. AA., 2 M.G.
Machinery:	2 sets Diesels. B.H.P.: 1,000=15 kts.

Notes

Transferred from French Navy 11 Feb. 1954. Vietnam names are those of three naval victories won during the thirteenth century by the Vietnam Navy of that time against Chinese invading forces. *Ham Tu*, HQ 111 (ex-*Aubepine*, ex-*D* 315, ex-*YMS* 28) was removed from the effective list in 1958.

Recent Disposals

The coastal patrol craft HQ 600 (ex-*GC* 8) and HQ 601 (ex-*GC* 7, ex-*SC* 1020) were removed from the effective list in 1960.

SURVEY VESSEL

U.S. FS Type

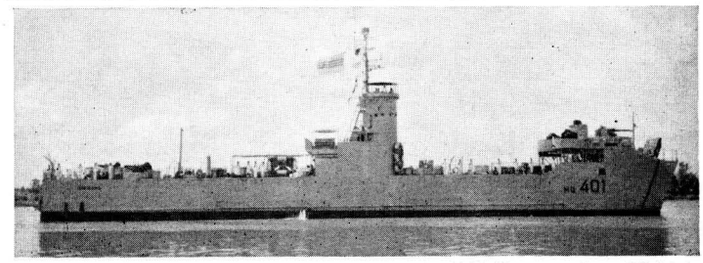
HQ 451 HOA GIANG (ex-*Dinr An*, ex-*Ingenieur en Chef Girod*, ex-*FS* 24, ex-*Governor Wright*)

Displacement:	950 tons
Dimensions:	176 × 32½ × 10½ feet
Machinery:	2 G.M. Diesels. 1 shaft. B.H.P.: 1,000=12 kts.
Complement:	55

Notes

Former French (ex-U.S.) survey vessel sold to Vietnam in Dec. 1955. Photograph in the 1956-57 to 1959-60 editions.

LANDING SHIPS



HAT GIANG — 1960, *Vietnamese Navy, Official*

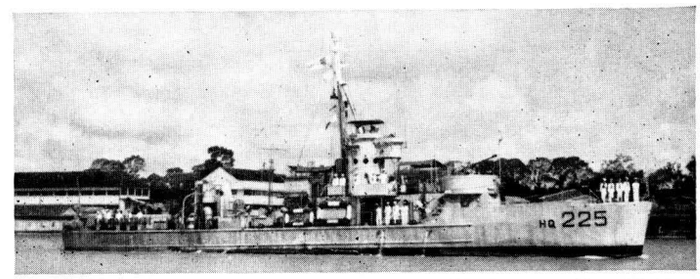
U.S. LSM Type

HQ 400 HANG GIANG (ex-*LSM* 9012) **LAM GIANG** (ex-U.S. 226)
HQ 401 HAT GIANG (ex-*LSM* 9011) **NINH GIANG** (ex-U.S. 85)

Displacement:	743 tons *beaching* (1,095 tons *full load*)
Dimensions:	196½ (*w.l.*), 203½ (*o.a.*) × 34½ × 8½ feet
Guns:	2—40 mm. AA., 4—20 mm. AA.
Machinery:	Diesel. 2 shafts. 8.H.P.: 2,800=12 kts.
Complement:	59

Notes

Landing Ships Medium designed primarily to carry assault troops. Widely employed in beach landings during Second World War. Transferred to the French Navy for use in Indo-China, Jan. 1954. LSM 9011, 9012 transferred to Vietnam Navy, Dec. 1955. LSM 9014, 9017, 9018, returned to U.S.A. in 1955.



NO-THAN — 1960, *Vietnamese Navy, Official*

U.S. LSSL Type

NO-THAN (ex-*Framée*, ex-*LSSL* 105) **LINH KIEM** (ex-*Arquebuse*, ex-*LSSL* 9022)

Displacement:	227 tons (383 tons *full load*)
Dimensions:	158 × 23⅔ × 5⅔ feet
Guns:	1—3 inch, 4—40 mm., 4—20 mm.
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600=14·4 kts.

Notes

Transferred from U.S.A. in 1951 for service in Indo-China. *Arbalete* was sold by France to Vietnam in 1954 and *Arquebuse* in 1955. *Hallebarde*, *Javeline* and *Rapiere* were given back to the United States in Oct. 1955. *Framée* was transferred from France to Vietnam in 1957. Pennant Nos. HQ 225 and 226, respectively.

U.S. LSIL Type

HQ 327 (ex-*LSIL* 9029) ex U.S. 698 **HQ 329** (ex-*LSIL* 9038) ex-U.S. 872
HQ 328 (ex-LSIL 9035) ex-U.S. 702 **HQ 330** (ex-*LSIL* 9034) ex-U.S. 699
HQ 331 (ex-*LSIL* 9033) ex-U.S. 871

Displacement:	227 tons (383 tons *full load*)
Dimensions:	158 × 23¾ × 5½ feet
Guns:	1—3 inch, 1—40 mm., 2—20 mm., 4 M.G., and 5 Army mortars (1—4·7 inch, 2—3·1 inch, 2—60 mm.)
Machinery:	Diesel. 2 shafts. B.H.P.: 1,600=14·4

Notes

Stationed in Indo-China. Ex-U.S. ships 9030-9033 ceded to France at Bremerton, Washington, 2 Mar. 1951, 9029 and 9034-39 in 1953. Similar to preceding class. *LSIL* 9030 (ex-715) scrapped 1955. The above vessels were transferred from France to Vietnam in 1956.

LANDING CRAFT

U.S. LCU Type

HQ 533 (ex-*LCU* 9076) ex-U.S. 1479 **HQ 536** (ex-*LCU* 9074) ex-U.S. 1595
HQ 534 (ex-*LCU* 9089) ex-U.S. 1480 **HQ 537** (ex-*LCU* 9887) ex-U.S. 1501
HQ 535 (ex-*LCU* 9086) ex-U.S. 1221 **HQ 538** (ex-*LCU*) ex-U.S. 1502
HQ 539 (ex-*LCU*) ex-U.S. 1594

Notes

These landing ships and landing craft form " naval attack divisions " (*Division navale d' assault*) most of which have one LSSL or LSIL as flagships. Built in U.S.A. and transferred under MDAP except 1594 and 1595 built under off-shore programme MDAP. Photograph in the 1958-59 edition.

Other Types

There are also 67 landing craft of the LCM Type, most equipped as light monitor or gunboats, and 111 LCVP.

OILER

U.S. YOG Type

HQ 470 (ex-*L'Aulne*, ex-U.S. *YOG* 680)

Displacement:	450 tons
Capacity:	700 tons deadweight

Notes

Ex-U.S. oiler ceded to France 2 Mar., 1950. Rated as regional supply ship. Transferred from the French Navy to the Vietnamese Navy in 1956. Removed from the effective list in 1958.

YUGOSLAVIA

Administration

Commander-in-Chief, Yugoslav Navy:
Admiral Mate Jerkovic.

Commander-in-Chief of the Fleet:
Vice-Admiral Bogdan Pecotic.

Naval Attaché in London:
Commander Ljub Mihajlovic

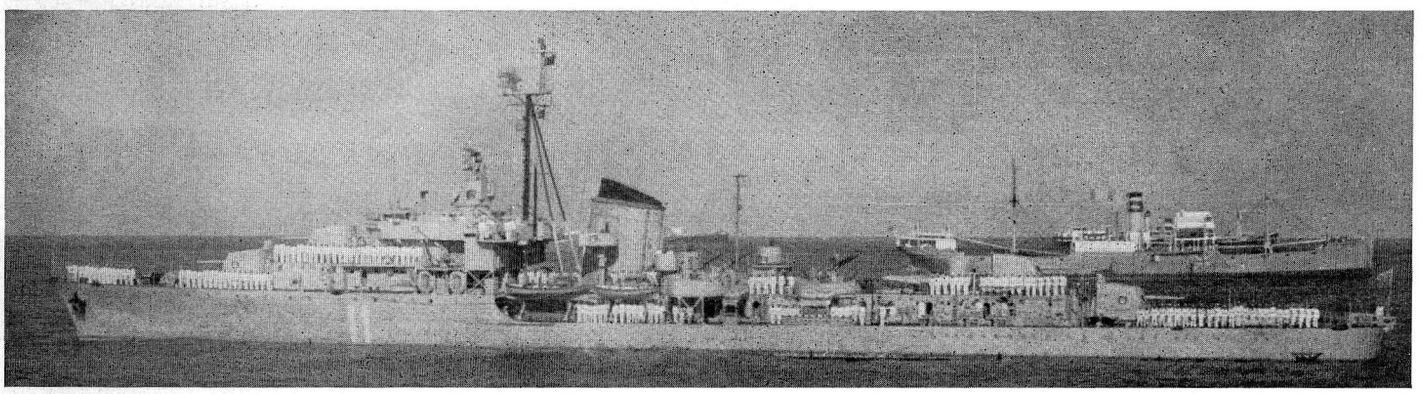
Personnel

1960: 27,000 officers and ratings

Mercantile Marine

Lloyd's Register of Shipping:
207 vessels of 465,009 tons

DESTROYERS (*Razarac*)



SPLIT

1959, *Yugoslavian Navy, Official*

1 New Construction

SPLIT (ex-*Spalato*, ex-*Split*)

Pennant No.:	11
Builders:	Brodogradiliste " 3. Maj ", Rijeka
Laid down:	1939
Launched:	1940
Completed:	4 July 1958

Displacement:	2,400 tons *standard* (3,000 tons *full load*)
Dimensions:	376½ × 36½ × 12½ feet
Guns:	4—5 inch, 12—40 mm. AA.
Tubes:	5—20·8 inch
A/S weapons:	2 squid type, 6 D.C.T., 2 D.C. racks.
Mines:	40
Machinery:	Geared Turbines. 2 shafts. S.H.P.: 50,000=38 kts. (*nax*,) designed, 31½ kts. sea speed
Boilers:	2
Oil fuel:	590 tons

General Notes

The original ship was laid down by Chantieres de Loire, Nantes, in 1939, at Split Shipyard. Launched in 1940. It is officially stated that this ship carried out extensive trials in 1958 and was ready for operational service in 1959 The original design provided for an armament of 5—5·5 inch guns, 10—40 mm. AA. guns, and 6—21·7 inch torpedo tubes (tripled).

Engineering Notes

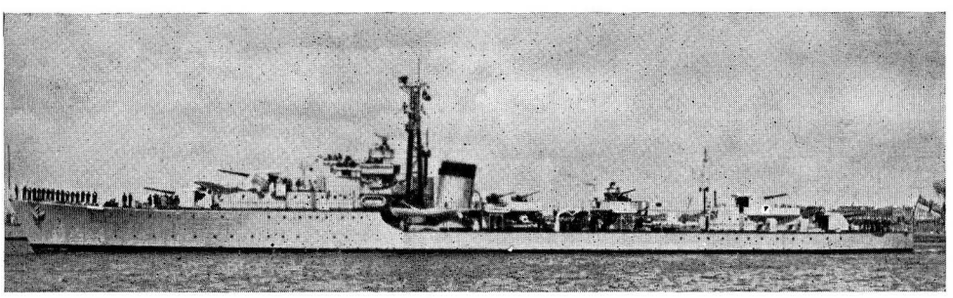
The shaft horsepower is also reported variously as 60,000 and 70,000.

2 Ex-British " W " Class

KOTOR (ex-*Kempenfelt*, ex-*Valentine*; Leader)
PULA (ex-*Wager*)

	Kotor	*Pula*
Pennant No.:	21	22
Builders:	John Brown & Co., Ltd., Clydebank	John Brown & Co., Ltd., Clydebank
Laid down:	24 June 1942	20 Nov. 1942
Launched:	8 May 1943	1 Nov. 1943
Completed:	25 Oct. 1943	14 Apr. 1944

Displacement:	1,710 tons (*Kotor*, 1,730 tons) *standard*, 2,505 tons (*Kotor*, 2,525 tons) *full load*
Dimensions:	362¾ × 35¾ × 16 feet
Guns:	4—4·7, 3—40 mm. AA. (1—40 mm. in *Kotor*)
A/S weapons:	4 D.C.T.
Tubes:	8—21 inch
Machinery:	Parsons geared turbines. S.H.P.: 40,000=36·75 kts. (designed), 31·25 kts. sea speed
Boilers:	2 Admiralty 3-drum type
Oil fuel:	580 tons
Radius:	2,800 miles at 20 kts.
Complement:	186



KOTOR

Added 1957, *Official*

General Notes

Former British destroyers of the " W " class. Purchased during 1956 and towed to Yugoslavia in Oct. 1956 to be refitted in a northern Yugoslavian shipyard. *Kotor* was re-commissioned on 10 Sep. 1959 and *Pula* by the end of 1959, it is officially stated.

Class Notes

Sister ships of *Wessex*, renamed *Jan van Riebeeck*, and *Whelp*, renamed *Simon van der Stel* in South African Navy and original sister ships of *Wakeful*, *Whirlwind* and *Wizard*, in the British Navy, and *Wrangler*, in the South African Navy, converted to frigates, see earlier pages.

Appearance Notes

One director on bridge not so large as in later classes. Tall foremast in both. Single Bofors mounting high up abaft funnel in superfiring position. Photograph of *Pula* in the 1957-58 edition.

SUBMARINES (*Podmornice*)

New Construction

SUTJESKA

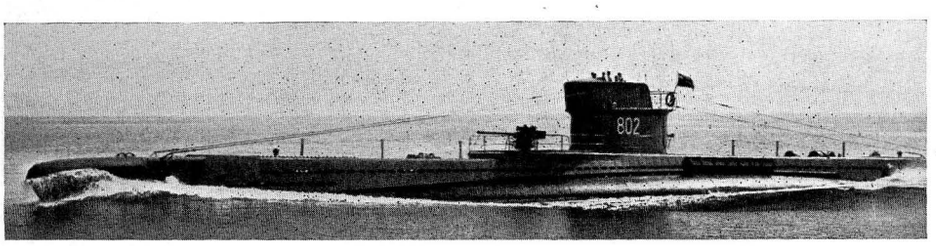
Displacement: 550 tons *standard*

Note

It was officially stated in Oct. 1959 that the submarine *Sutjeska* had been launched at the Shipyard "Uljanik," Pula.

SAVA (ex-*Tritone*)

Displacement	747 tons *standard*, 905 tons *surface*, 1,068 tons *submerged*
Dimensions:	207½ × 22¾ × 16 feet
Guns:	1—3·9 inch, 2—20 mm. AA.
Tubes:	6—21 inch
Machinery:	H.P.: 2,400=16 kts. (*surface*), 8 kts. (*submerged*)
Radius:	12,000 miles at 8·5 kts.
Complement:	55



SAVA

1959, *Yugoslavian Navy, Official*

Notes

Formerly Italian. Built by C.R.D.A. Monfalcone. Laid down on 12 May, 1941. Launched on 3 Jan., 1942. Completed on 10 Oct. 1942. Sunk on 19 Jan. 1943. Salvaged. Has the same name as river monitor, see later page. Pennant No. 802.

Recent Disposa

It was officially stated in 1958 that the submarine *Tara* (photograph in the 1952-53 to 1957-58 editions) has been scrapped

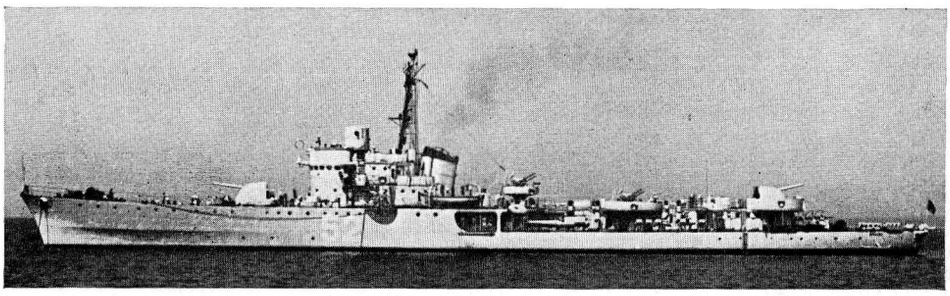
FAST FRIGATES (Light Destroyer Type)

4 Ex-Italian Type

BIOKOVO (ex-*Aliseo*) **TRIGLAV** (ex-*Indomito*)

Name	*Biokovo*	*Triglav*
No.:	52	51
Builders:	Navalmeccanica, Castellammare	Cd. T. Riva Trigoso
Laid down:	16 Sep. 1941	10 Jan. 1942
Launched:	20 Sep. 1942	6 July 1943
Completed:	28 Feb. 1943	4 Aug. 1943

Displacement:	1,095-1,204 tons *standard* (1,649-1,709 tons *full load*)
Dimensions:	270½ (*pp.*), 293 (*o.a.*) × 32½ × 9½ feet
Guns:	3—3·9 inch, 47 cal., d.p., 11—20 mm. AA. (*Biokoa:* 2—3·9 inch, 10—20 mm. AA.) 4 D.C.T.
Tubes:	4—18 inch
Machinery:	2 sets Tosi geared turbines. 2 shafts. S.H.P.: 15,500-16,000=25-26 kts.
Boilers:	2, of 3-drum type
Oil fuel:	430 tons
Radius:	3,500 miles at 15 kts.
Complement:	175



BIOKOVO 1957, *Yugoslavian Navy, Official*

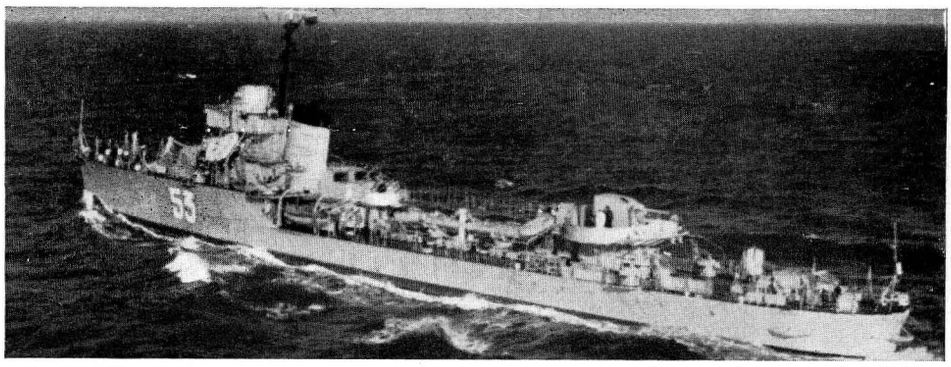
Notes

Ex-Italian large oceangoing torpedo boats of escort destroyers. A photograph of *Triglav* appears in the 1954-55 to 1957-58 editions.

DURMITOR (ex-*Ariete*) **UCKA** (ex-*Balestra*)

Name:	*Durmitor*	*Učka*
No.:	53	54
Builders:	Ansaldo, Genoa	C.N.Q., Fiume
Laid down:	15 July 1942	5 Sep. 1942
Launched:	6 Mar. 1943	1943
Completed:	5 Aug. 1943	1949

Displacement:	797 tons *standard* (about 1,000 tons *full load*)
Dimensions:	265¾ × 27½ × 9 feet
Guns:	2—3·9 inch (100 mm., 47 cal.) AA., 10—20 mm., 70 cal., AA.
Tubes:	6—18 inch (tripled)
Machinery:	2 sets Tosi geared turbines. 2 shafts. S.H.P.: 22,000=31·5 kts.
Boilers:	2, of 3-drum type
Oil fuel:	200 tons
Radius:	1,800 miles at 15 kts.
Complement:	150



DURMITOR 1954, *Official*

Notes

Former Italian oceangoing torpedo boats or small destroyers. *Durmitor* is the only survivor of her class. *Ucka* is not quite of same type as *Durmitor*, being larger. New name *Ucka* means the Monte Maggiore near Abbazia. *Ucka* was damaged on slip by bombs on 20 Feb. 1945 (she was named TA 47 by the Germans), rebuilt and completed by Yugoslavia. A photograph of *Ucka* appears in the 1954-55 to 1957-58 editions.

MINELAYER Training Ship (*Skolski Brodovi*)

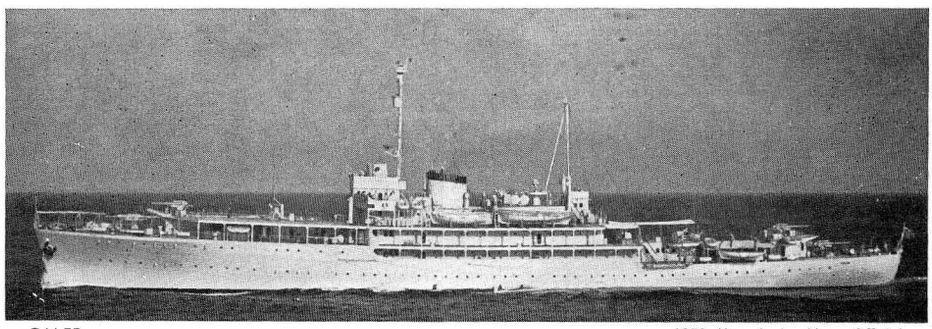
Ex-Italian Type

M 11 GALEB (ex-*Ramb III*)

Displacement:	5,182 tons
Measurement:	3,667 tons *gross*
Dimensions:	385 × 51 × 18 feet
Guns:	4—3·5 inch, 4—40 mm., 24—20 mm. (quadruple)
Machinery:	Diesel motors. 2 shafts.=17 kts.

Notes

Formerly Italian. Launched in 1938. Refloated and completed in 1952. Adapted for minelaying. Now serving as a training ship.



GALEB 1959, *Yugoslavian Navy, Official*

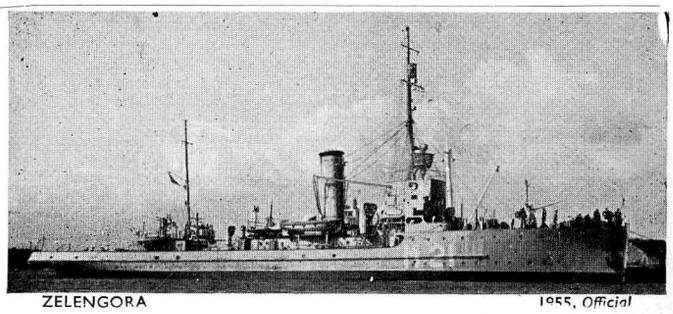
MINELAYER (*Minopolagaci*)

M 21 ZELENGORA (ex-*Orao*, ex-*M 97*)

Displacement:	330 tons *standard* (500 tons *full load*)
Dimensions:	182 (*w.l.*), 192 (*o.a.*) × 23½ × 7 feet
Guns:	2—3·9 inch AA., 4—3 pdrs.
Mines:	40
Machinery:	2 Triple expansion reciprocating. 2 shafts. I.H.P.:1,850=15 kts.
Boilers:	2
Oil fuel:	160 tons
Radius:	1,800 miles at 14 kts.
Complement:	71

Notes

Built by Techlenborg, Geestemünde. Launched in 1918. *Zelengora* means "Eagle." While in Italian hands *Orao* was named *Vergada*.



ZELENGORA 1955, *Official*

SALVAGE VESSEL (*Brod za Spasavanje*)

PS 11 SPASILAC

Displacement:	740 tons
Dimensions:	174 × 26½ × 13 feet
Machinery:	Triple expansion. H.P.: 2,000=15 kts.

Notes

Built by Howaldt, Kiel. Launched in 1929. Name means "Salvador". While in Italian hands she was called *Intangible*.

SUBMARINE DEPOT SHIP (*Matica za Podmornice*)

PB 21 MINER (ex-*Sitnica*, ex-*Najade*)

Displacement:	370 tons
Dimensions:	157½ × 23 × 6½ feet
Guns:	2—3 pdr.
Machinery:	Triple expansion. H.P.: 500=9 kts.

Notes

Launched in 1891. Former name means "Dew." The Italians renamed her *Curzola*.

PATROL VESSELS



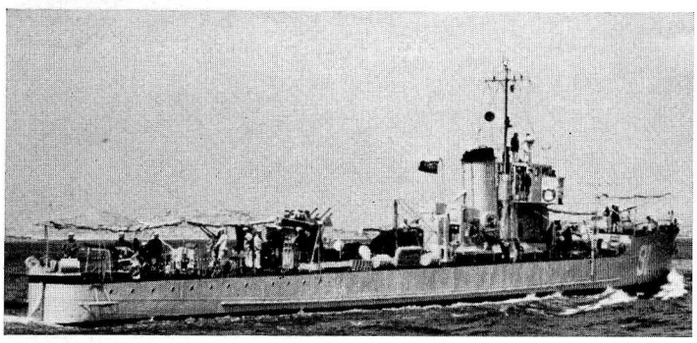
PBR 581 *Yugoslavian Navy, Official*

1 French-Built U.S. Offshore Type

PBR 581 (ex-*P6*)

Displacement:	325 tons *standard* (400 tons *full load*)
Dimensions:	170 (*pp.*) × 23 × 6½ feet
Guns:	2—40 mm. Bofors AA., 2—20 mm. AA.
A/S weapons:	1 Hedgehog. 4 D.C.T., 2 D.C. racks
Machinery:	4 Pielstick-SEMT diesels. B.H.P.: 3,240=18·7 kts.
Radius:	3,000 miles at 12 kts., 2,000 miles at 15 kts.
Complement:	62

Notes
U.S.A. offshore procurement. Ordered in France. Built by F. C. Mediterranee (Graville). Launched on 1 June, 1954. Transferred to Yugoslavia in 1956.



GOLESNICA *Yugoslavian Navy, Official*

1 Ex-Austrian Type Torpedo Boat (*Torpiljarke*)

92 CER (ex-*T* 5, ex-*T* 87)

Displacement:	266 tons *standard* (300 tons *full load*)
Dimensions:	188⅓ × 18⅔ × 5 feet
Guns:	2—66 mm. 1 M.G.
Tubes:	4—18 inch (paired)
Mfichinery:	Turbines. 2 shafts. S.H.P.: 5,000=20 kts.
Boilers:	2 Yarrow
Fuel	18 to 20 tons coal, 24 to 34 tons oil.
Complement:	52

Notes
Launched in 1913. Built by Granz-Danubius Co., Porte Ré, Fiume. *Cer* is similar in appearance to *Golesnica* (see photograph) but has two funnels. It was officially stated in Oct. 1959 that *Golesnica* has been scrapped.

COASTAL MINESWEEPERS



M 152 1958, *Yugoslavian Navy, Official*

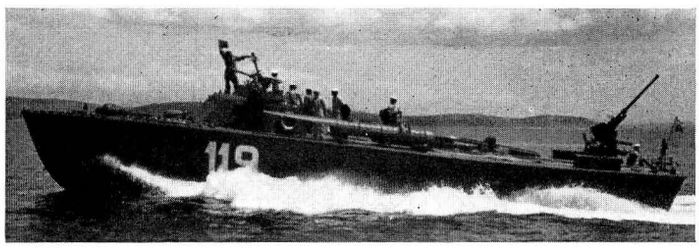
3 French-Built U.S. Offshore Type

M 151 (ex-D 25) **M 152** (ex-D 26) **M 153** (ex-D 27)

Displacement:	365 tons *standard* (424 tons *full load*)
Dimensions:	140 (*pp.*), 152 (*o.a.*) × 28 × 8½ feet
Guns:	1—40 mm. Bofors AA., 1—20 mm. Oerlikon AA.
Machinery:	SIGMA free piston generators. 2 shafts. B.H.P.: 2,000=15 kts.
Oil fuel:	48 tons
Radius:	3,000 miles at 15 kts.
Complement:	40

Notes
Built in France by A. Normand as United States "off-shore" orders. Launched on 27 Feb. 1956, 26 May 1956 and 26 June 1956, respectively, and allocated to the Yugoslavian Navy at Cherbourg in Sep. 1957.

MOTOR TORPEDO BOATS (*Torpedni Čamci*)



MTB 119 *Yugoslavian Navy, Official*

96 Type "108"

New Construction

102	**115**	**120**	**125**	**157**	**162**	**167**
103	**116**	**122**	**126**	**159**	**164**	**170**
108	**119**	**124**			**165**	**174**

Displacement:	60 tons
Dimensions:	69 × 21½ × 7 feet
Guns:	1—40 mm. AA., 2—12·7 mm.
Tubes:	2
Machinery:	3 Packard motors. Speed: 40 kts.
Complement:	14

Notes
The total number of motor torpedo boats is reported to be over 65. Under future programmes it is planned to raise the total to 110.

7 American Type

MT 1 (ex-*PT* 201) **MT 3** (ex-*PT* 207) **MT 5** (ex-*PT* 209)
MT 2 (ex-*PT* 204) **MT 4** (ex-*PT* 208) **MT 6** (ex-*PT* 211)
MT 7 (ex-*PT* 213)

Displacement:	56 tons *full load*
Dimensions:	78 × 20⅔ × 5½ feet
Guns:	1—40 mm. AA.
Tubes:	4
Machinery:	3 Packard motors. 3 shafts. H.P.: 4,500=35 kts.
Complement:	17

Notes
Built by Higgins. All launched in 1942. Transferred from U.S. Navy in 1945. MT 8 (ex-*PT* 217) was scrapped in 1955.

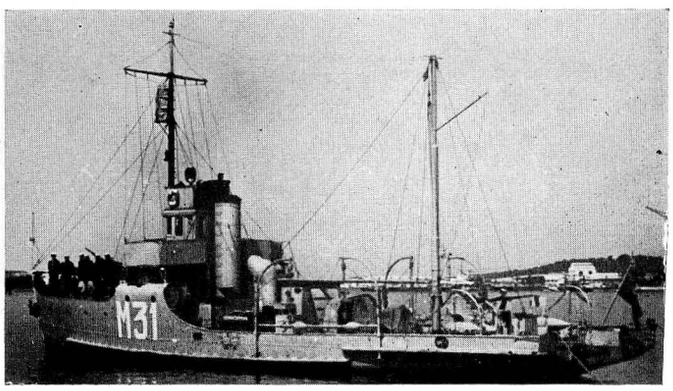
2 German Type

391 (ex-*Durmitor*) **392** (ex-*Kaimakcalan*)

Displacement:	60 tons
Dimensions:	92 × 14 × 5 feet
Guns:	1—47 mm. AA., 1 M.G. AA.
Tubes.	2—18 inch
Machinery:	4 Mercedes-Benz petrol motors. H.P.: 3,000=34 kts.
Complement:	14

Notes
Built by Lürssen, Vegesack in 1936-37.

MINING TENDERS (*Tenderi minopolagaci*)



M 31 1955, *Official*

3 Yarrow Class

M 31 (ex-*Meljine*) **M 32** **M 33** (ex-*Mljet*)

Displacement:	130 tons
Dimensions:	174 × 26½ × 13 feet
Guns:	1—47 mm.
Machinery:	Triple expansion. H.P.: 280=9 kts.

Notes
Built by Yarrow's Adriatic Yard, Kraljevica. Launched in 1931. While in Italian hands M 31 and M 33 were named *Solto* and *Meleda* respectively.

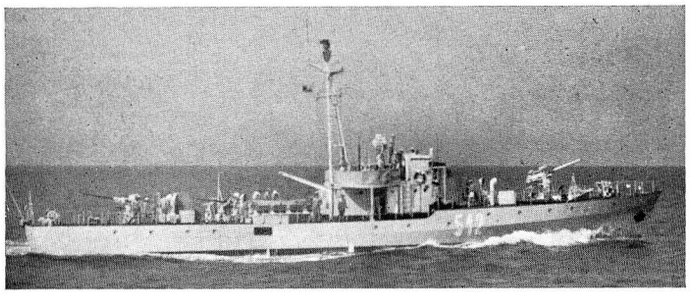
PATROL BOATS

New Construction

MORNAR

Notes

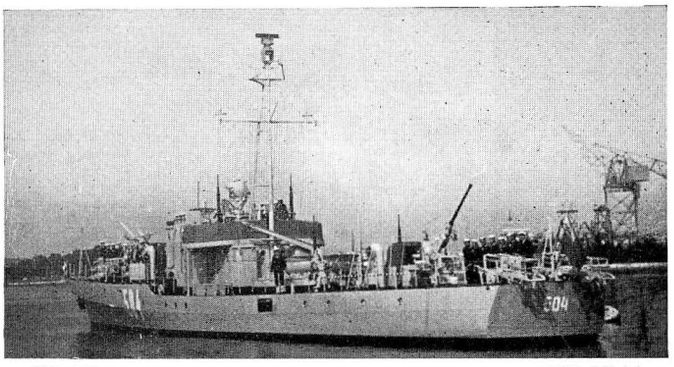
Official statement:—" New patrol boat *Mornar* was completed on 10 Sep. 1959. Particulars not available yet."



PBR 512 — 1959, *Yugoslavian Navy*, *Official*

"Kraljavica" Class Submarine Chasers
16 PBR 501-508 and 509-516 Types

PBR 509	**PBR 511**	**PBR 513**	**PBR 515**
PBR 510	**PBR 512**	**PBR 514**	**PBR 516**



PBR 504 — 1955, *Official*

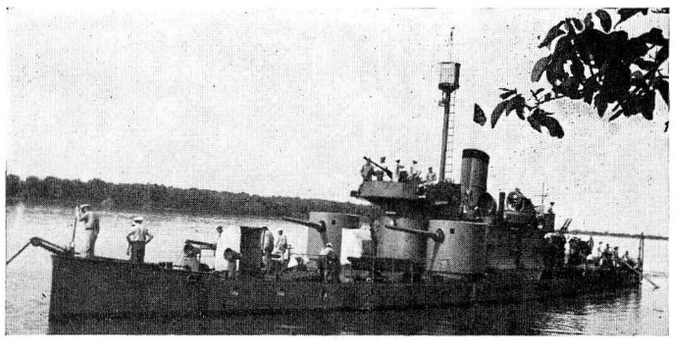
PBR 501	**PBR 503**	**PBR 505**	**PBR 507**
PBR 502	**PBR 504**	**PBR 506**	**PBR 508**

Displacement: 190 tons
Dimensions: 134½ × 20⅔ × 7 feet
Guns: 1—3 inch, 1—40 mm. AA., 4—20 mm. AA.
A/S weapons: D.C.
Machinery: Diesel. 2 shafts. B.H.P.: 3,300=20 kts.

Notes

Three patrol boats of the " 500 " class were launched in 1956. The second batch of patrol boats, PBR 509-516 are an improvement on the PBR 501-508 type.

RIVER MONITOR



SAVA — 1955, *Official*

SAVA (ex-*Bodrog*)

Displacement: 380 tons *standard* (478 tons *full load*)
Dimensions: 183¾ × 31½ × 4 feet
Guns: 2—4·1 inch in turrets, 3—40 mm. AA., 6—20 mm. AA.
Machinery: Speed:=12·5 kts.

Note

Refitted and completed in 1952. Has the same name as submarine, see earlier page.

YACHT (*Jahta*)

ISTRANKA (ex-*Vilax-Dalmata*,)

Displacement: 230 tons
Machinery: H.P.: 325=12 kts.

Notes

Name means " Nymph ". Named *Fata* whilst in Italian hands during 1941-45.

INSHORE MINESWEEPERS (*Minolovci*)



M 109 — 1954, *Official*

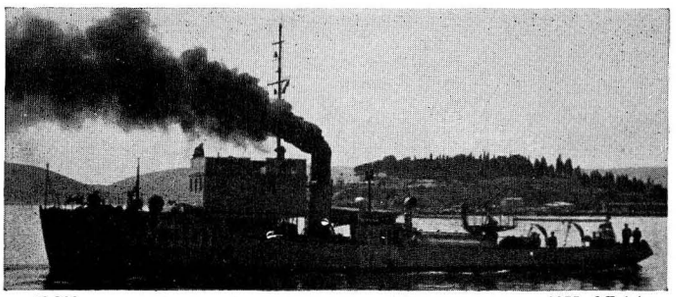
18 Type 101

M 101	**M 103**	**M 105**	**M 107**	**M 109**	**M 111**	**M 113**	**M 115**	**M 120**
M 102	**M 104**	**M 106**	**M 108**	**M 110**	**M 112**	**M 114**	**M 116**	**M 140**

Displacement: 90 tons
Dimensions: 82 × 19½ × 6¼ feet
Guns: 1—40 mm., 1—20 mm.
Machinery: Diesel. B.H.P.: 135-175=12 kts.

Notes

The displacement of these vessels is also reported as 60 tons.



M 301 — 1955, *Official*

6 Ex-Italian Type 301

ML 301 (ex-*RD* 6)	**ML 303** (ex-*RD* 21)	**ML 305** (ex-*RD* 27)
ML 302 (ex-*RD* 16)	**ML 304** (ex-*RD* 25)	**ML 306** (ex-*RD* 28)

Displacement: 151 to 156 tons
Dimensions: 116 × 19¼ × 6 feet
Guns: 1—3 inch AA.
Machinery: Triple expansion. I.H.P.: 750=10 kts.

Notes

Formerly Italian. Launched in 1917-19. ML 307 (ex-*RD* 29) was removed from the effective list in 1955.

RIVER MINESWEEPERS

14 RML 300 Type

M 301	**M 303**	**M 305**	**M 307**	**M 309**	**M 311**	**M 313**
M 302	**M 304**	**M 306**	**M 308**	**M 310**	**M 312**	**M 314**

Displacement: 38 tons
Guns: 1—20 mm.
Machinery: Speed 12kts.

Notes

All these boats were launched in 1951-53. Photograph of M 313 in the 1957-58 edition.

DESPATCH VESSEL

1 Yacht Type

JADRANKA (ex-*Bjeli Orao*)

Displacement: 567 tons *standard* (660 tons *full load*)
Dimensions: 197 (*pp*). 213½ (*o.a.*) × 26½ × 9½ feet
Guns: 2—40 mm. AA., 2 M.G.
Machinery: 2 Sulzer diesels. B.H.P.: 1,900=18 kts.

Notes

Builders, C.R. dell'Adriatico, San Marco, Trieste; launched 3 June 1939. Was used as Admiralty yacht and yacht of Marshall Tito. While in Italian hands was named *Alba* for some days only, then *Zagabria*. Photograph of *Jadranka* in 1957-58 edition.

SAIL TRAINING SHIP

JADRAN

Displacement: 720 tons
Dimensions: 190 × 29½ × 13¾ feet
Sail Area: 8,600 sq. ft.
Machinery: 1 Linke-Hofman Diesel. H.P.: 375=8kts

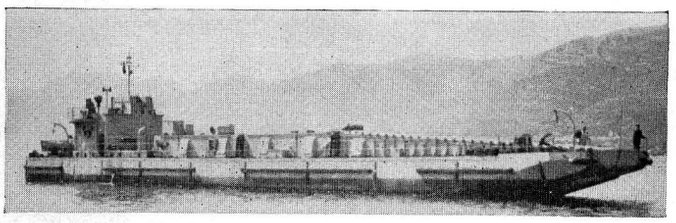
Notes

Launched in 1932. Accommodation for 150 Cadets. Name maens " Adriatic ". While in Italian hands she was named *Marco Polo*. A photograph appears in the 1954-55 to 1957-58 editions.

LANDING CRAFT

New Construction

Notes
New construction includes some landing craft of LCA, LCT and Siebel-ferry types.

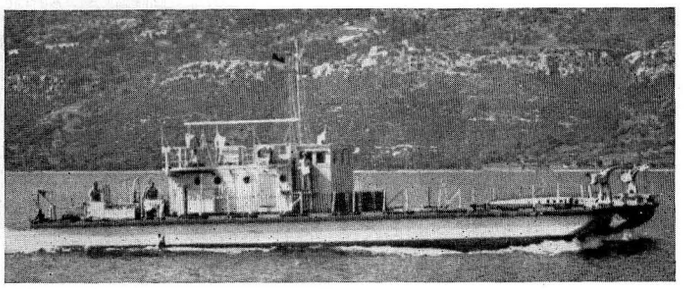


D 230 1959, *courtesy B. Hinchliffe, Esq.*

D 230

Displacement: *circa* 500 tons

Notes
Capable of carrying at least two, possibly three of the heaviest tanks. Unlike other tank landing craft in that the lower part only of the stem drops to form a ramp down which the tanks go ashore, underneath the prow, which is rigid.

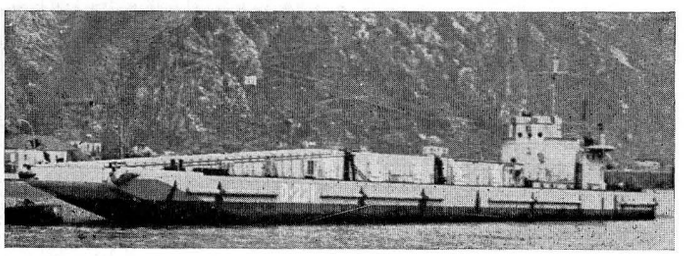


Catamaran type 1959, *courtesy B. Hinchcliffe, Esq.*

Catamaran Type

Displacement: *circa* 50 tons

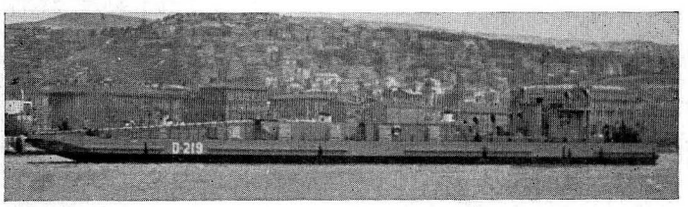
Notes
A smaller craft consisting of two pontoons some feet apart, secured to each other by cross-girders on which stand the bridge and cabins, etc. This vessel appears to be capable of carrying one medium tank, to be put ashore by two bridge members which can be seen quite clearly, folded back on the decks.



D 221 1959, *Yugoslavian Navy, Official*

DTK 221

Displacement:	410 tons
Dimensions:	144½ × 19⅔ × 7 feet
Guns:	1—20 mm. AA., 2—12·7 mm.
Machinery:	Speed = 10 kts.
Complement:	15



D 219 1959, *Yugoslavian Navy, Official*

D 206 (ex-*MZ 713*) **D 219** (ex-*MZ 717*)

Displacement:	225 tons and 239 tons
Guns:	1—20 mm. AA., 2 M.G. AA.
Machinery:	Speed = 11 kts.

Notes
Ex-Italian landing craft. Launched ib 1942. Capable of carrying three tanks.

D 203 **D 204**

Displacement:	220 tons
Guns:	1—3·4 inch (88 mm.), 2—20 mm. AA.
Machinery:	Speed = 10 kts.

Notes
Ex-German landing craft. Two landing craft were launched in 1956.

RIVER PATROL VESSEL

KRAJINA (ex-*Dragor*)

Displacement:	250 tons
Dimensions:	164 × 26½ × 3⅔ feet
Machinery:	H.P.: 480 = 10 kts.

Notes
Launched in 1923. Formerly served as Royal Yacht on Danube.

RIVER GUNBOATS

2 RPC 200 Type

Displacement:	30 tons
Guns	2—3 inch in turrets
Machinery:	Speed = 15 kts.

Notes
Both launched in 1945 for the Donau Flotilla.

TRANSPORTS

10 PT 82 Type

PT 21 TUNJ (ex-*KRK*, ex-*Kt 6*)

Displacement:	650 tons *standard* (834 tons *full load*)
Dimensions:	221⅔ × 36 × 6¼ feet
Machinery:	H.P.: 2,400 = 12 kts.

Notes
Former German KT type light transport. A photograph of *Tunj* appears in the 1954-55 to 1957-58 editions.

WATER CARRIERS (*Vodonosci*)

PV 6 **PV 11** **PV 12**

Notes
There are 8 water carriers of various types. Some are of new construction. Also PT 12 and PO 54.

OILERS

4 PN 13 Type

PN 13 (ex-*Lovcer*) **PN 17**

Displacement:	560 to 695 tons
Machinery:	Speed = 8·5 kts.

Notes
PV 13 (ex-*Lovcer*) was launched in 1932.

ULJESURA **KIT**

Displacement: 250 tons

TUGS (*Remorkeri*)

PR 52 (ex-*San Remo*)

Displacement	170 tons
Machinery:	H.P.: 350 = 9 kts.

Notes
Former Italian tug and multi-purpose vessel. Launched in 1937.

PR 58 (ex-*Molara*)

Displacement:	118 tons
Machinery:	H.P.: 250 = 8 kts.

Notes
Former Italian tug. Launched in 1937, now used as general transport and towing vessel.

PR 51 (ex-*Porto Conte*)
Displacement: 226 tons

Notes
Former Italian tug. Launched in 1936. A photograph appears in the 1951-52 to 1957-58 editions.

PR 55 (ex-*Snazi*)

Displacement:	100 tons
Machinery:	H.P.: 300 = 10 kts.

Notes
Launched in 1917. Name means "Strong." The Italian name was *Resistance*.

PR 54 (ex-*Ustrajni*)

Displacement:	160 tons
Machinery:	H.P.: 250 = 9 kts.

Notes
Launched in 1917. Name means "Durable." The Italian name was *Duratero*.

LR 11 (ex-*Basiluzzo*)

Displacement:	108 tons
Machinery:	H.P.: 130 = 8 kts.

Notes
Former Italian tug. Launched in 1915.

PP 1 (ex-*Marljivi*)

Displacement:	130 tons
Machinery:	H.P.: 300 = 12 kts.

Notes
Very old tug. Launched in 1898. Name means "Industrious."

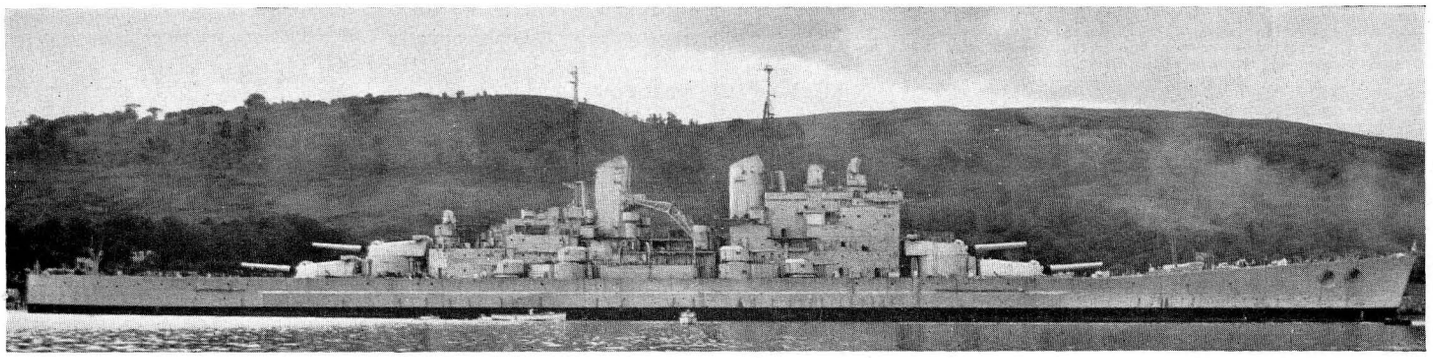
RRM 11 (ex-*Fruska Gora*)

Notes
River tug. General utility craft and service personnel transports.

ADDENDA



LION (see page 14) 1960, *Official*



VANGUARD (last appearance in the Gareloch) 1960, *courtesy, Dr. Ian S. Pearsall*

GREAT BRITAIN

Page 1.

Board of Admiralty

The First Sea Lord and Chief of Naval Staff:
Admiral Sir Caspar John, G.C.B.

Principal Admiralty Technical Officers

The Director-General, Ships:
Sir Alfred J. Sims, K.C.B., O.B.E.

British Carrier Borne Aircraft

The N.A. 39 strike aircraft has been named the **Buccaneer** (officially announced by the Admiralty on 1 Sep. 1960).

Page 8.

Aircraft Carriers

ARK ROYAL. Guns: now 4 twin, no single Bofors.

Page 14.

Recent Disposals of Battleships:
VANGUARD towed from Portsmouth on 4 Aug. 1960 and broken up at Faslane, in the Gareloch, off the Firth of Clyde, where she arrived on 9 Aug. (see photograph above).

Cruisers

" Tiger " Class

LION commissioned on 20 July 1960 (see photograph above). Complement: 717 (52 officers, 665 ratings).

Page 15.

" Colony " Class

GAMBIA to be disposed of in 1961.

Page 23.

General Purpose Frigates

GURKHA launched on 11 July 1960.
TARTAR launched on 19 Sep. 1960.

Page 24.

Anti-Submarine Frigates

" Leander " Class

To be named:
AJAX **DIDO** **LEANDER** **PENELOPE**

" Whitby " Class

LONDONDERRY completed on 22 July 1960.
LOWESTOFT launched on 23 June 1960.
See photograph of **ROTHESAY** on next page.

Page 26.

Aircraft Direction Frigates

LINCOLN completed on 7 July 1960 (see photograph on next page).

Page 34.

Submarines

1 Projected

Contract for second nuclear powered submarine placed with Vickers-Armstrongs (Shipbuilders) Ltd. Sub-contracts placed with Vickers-Armstrongs (Engineers) for the machinery and its installation, and Rolls-Royce for the nuclear steam raising plant.

1 New Construction

DREADNOUGHT launched on 21 Oct. 1960.

Displacement:	*circa* 3,500 tons *surface*
Dimensions:	Length: 266 feet. Beam: 32 feet
Complement:	88 (11 officers, 77 ratings)

Page 35.

Attack Submarines

" Oberon " Class

ONSLAUGHT launched on 24 Sep. 1960.

" Porpoise " Class

FINWHALE completed on 19 Aug. 1960.

Page 48.

Fast Patrol Boats

" Brave " Class

BRAVE SWORDSMAN completed on 20 July 1960.

Page 51.

Boom Defence Vessels

" Lay " Class

LAYBURN completed on 7 July 1960.

Page 57.

Tenders

DEEPWATER towed from Portsmouth on 12 Sep. 1960 for breakers' yard at Southampton.

AUSTRALIA

Page 64.

Anti-Submarine Frigates

New Construction

Mast differs from that in " Whitby " class frigates in the Royal Navy and is more like mast in new Canadian destroyer escorts and mast in new British-built Chilean destroyers (see photograph of **PARRAMATTA** on next page).

Page 65.

Submarine Notes
Reported from Canberra on 29 Sep. 1960 that Australia is expected to purchase four modern British submarines costing between £3,000,000 and £4,000,000 each for the Royal Australian Navy.

Page 66.

Armament Store Carrier

WOOMERA blew up and sank 23 miles from Sydney on 10 Oct. 1960.

CANADA

Page 71.

Anti-Submarine Frigates

Converted Destroyers

CRESCENT has been modified considerably during an extended refit. She has been equipped with variable depth sonar, one set of three-barrelled Limbo depth bomb mortars having been removed as weight compensation. Her twin 3-inch, 50 cal. gun aft has been fitted with a shield. She has three launchers for Mark 43 homing torpedoes (see photograph on opposite page).

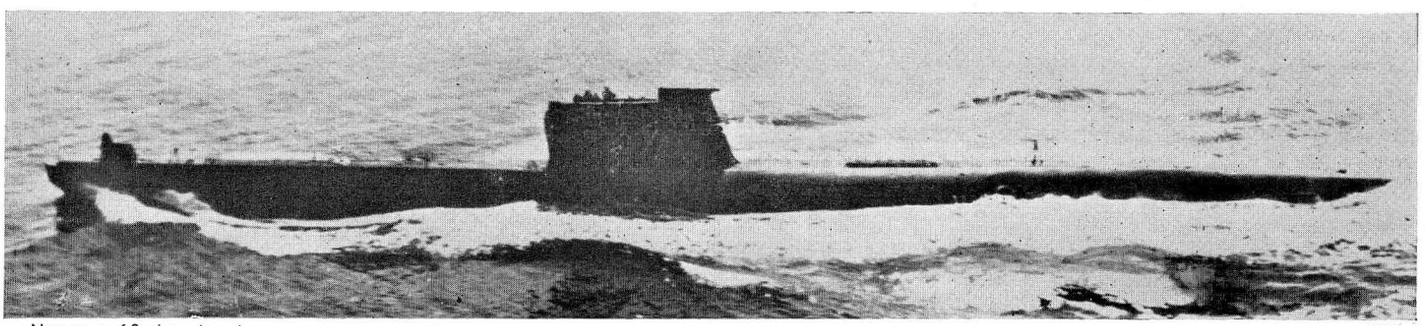
Page 72.

Submarine Notes
The United States submarine **BURRFISH**, SSR 312, is to be loaned by the U.S. Navy to the Royal Canadian Navy in Mar. 1961 and re-named **GRILSE** (authorised for loan for five years).

Page 74.

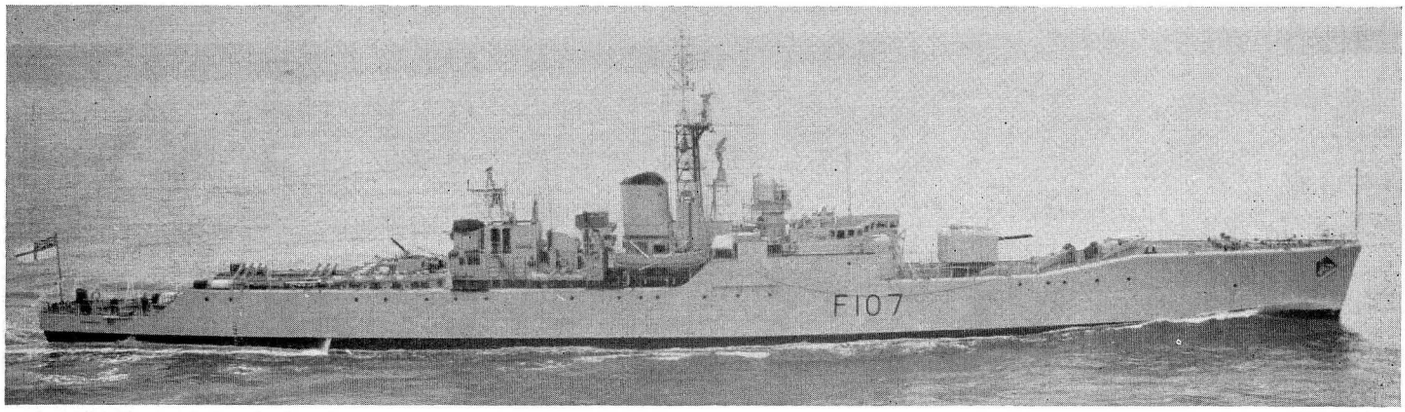
Fleet Replenishment Ship

The Davie Shipbuilding & Repairing Company, Lauzon, Quebec, has been awarded a contract valued at $12,000,000 to $13,000,000 for a tanker supply ship for the Royal Canadian Navy. Displacement: 22,000 tons. Deadweight tonnage: 14,700 tons. Length: 551 feet (see photograph of the model in the 1959-60 edition).

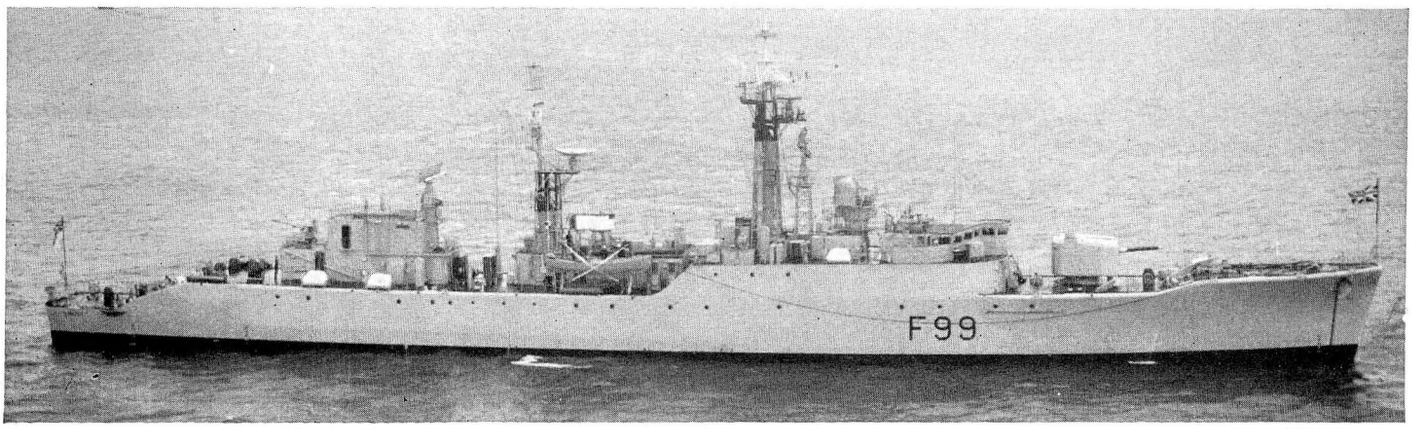


New type of Soviet submarine 1960

Addenda—*continued*



ROTHESAY (new anti-submarine frigate) see page 24 — 1960, *Official*



LINCOLN (new aircraft direction frigate) see page 26 — 1960, *Official*

ARGENTINA

Page 96.

Submarines

2 Ex-U.S. "Balao" Class

United States submarines **LAMPREY**, SS 372, and **MACABI**, SS 375, transferred to Argentina at San Francisco, California, in July 1960 (both having been refitted with deck gun abaft the conning tower) in lieu of *Flounder* and *Gabilan* of the "Gato" class.

BRAZIL

Page 104.

Aircraft Carrier

MINAS GERAIS on trials in Oct. 1960 after three-year reconstruction.

Page 107.

Coastal Minesweepers

United States Coastal Minesweepers *Cardinal*, MSC(o) 4, and *Egret* MSC(o) 46 transferred to Brazil at Charleston Naval Shipyard on 15 Aug. 1960 under MDAP as the nucleus of a Brazilian mine force and renamed **JAVARI** and **JUTAI**, after Brazilian Rivers.

CHILE

Page 115.

Landing Craft

LSM 444, *Aloto*, leased by the United States to Chile in July 1960 with 3 LCUs, 3 LCMs, 6 LCVPs.

FRANCE

Page 149.

Aircraft Carrier

BOIS BELLEAU handed back to the United States Navy.

Page 155.

Fast Frigates

L'ALSACIEN commissioned in May 1960.
LE VENDEEN commissioned in July 1960.

Page 158.

Submarines

DIANE launched on 4 Oct. 1960.
Q 248 named **MINERVE**.

GERMANY (EAST)

Page 168.

Frigates

1—61 see new photograph on next page.

Minesweepers

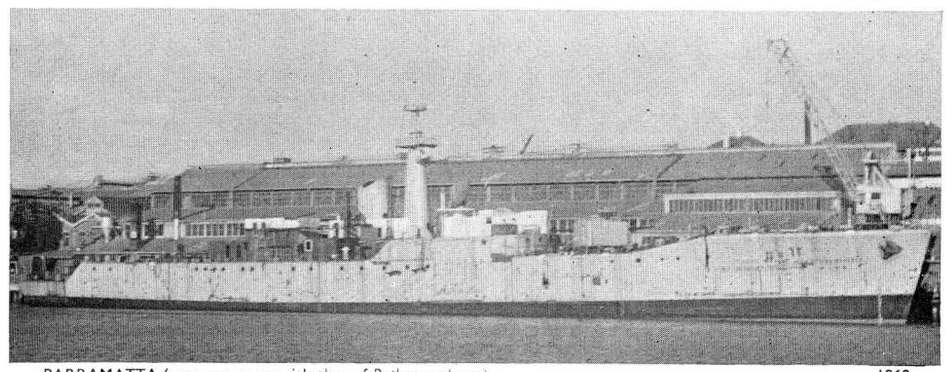
6—42 see new photograph on next page.

GERMANY (WEST)

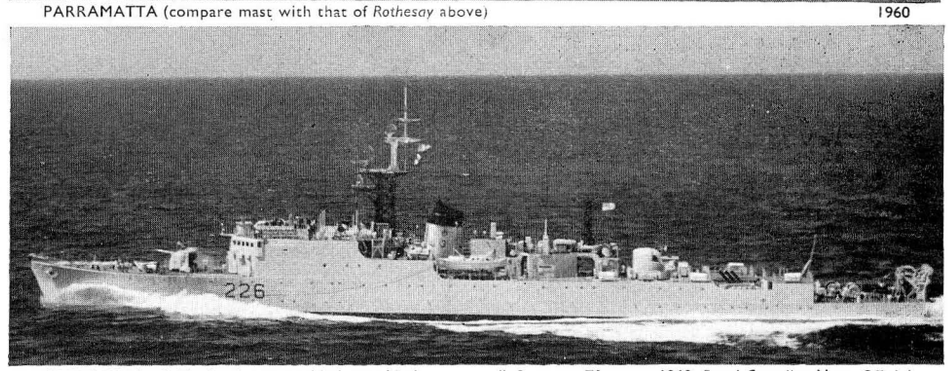
Page 170.

Destroyers

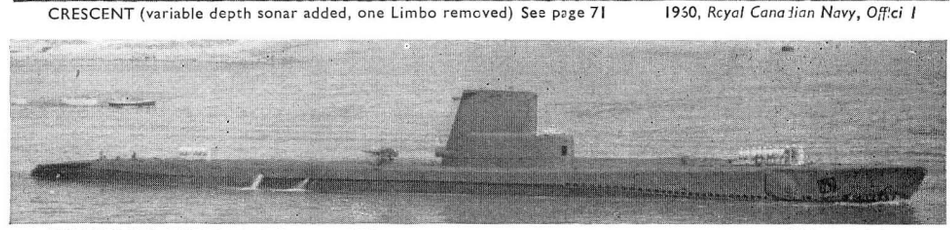
SCHLESWIG-HOLSTEN launched on 20 Aug. 1960. Reported only 4 of "Hamburg" class building and eight not ordered, but 5 more "dsetroyers" of a larger type with a displacement approaching 6,000 tons designed to carry guided missiles are projected for delivery in 1963-65



PARRAMATTA (compare mast with that of *Rothesay* above) — 1960



CRESCENT (variable depth sonar added, one Limbo removed) See page 71 — 1960, *Royal Canadian Navy, Official*



EVANGELISTA TORRICELLI (See page 203) — 1960, *A. & J. Pavia*

Page 172.

Submarines

WILHELM BAUER recommissioned in Sep. 1960 at Kiel. To serve at test vessel for Supply and Technique, a civil government agency of the Defence Ministry. Will not become operational in the West German Navy although she has a Navy Crew and wears the notched flag of the West German Naval Forces. Largest type ever built by Germany during the Second World War. Submerged speed in excess of 18 knots. The six torpedo tubes forward can be fired simultaneously.

Page 173.

Motor Torpedo Boats

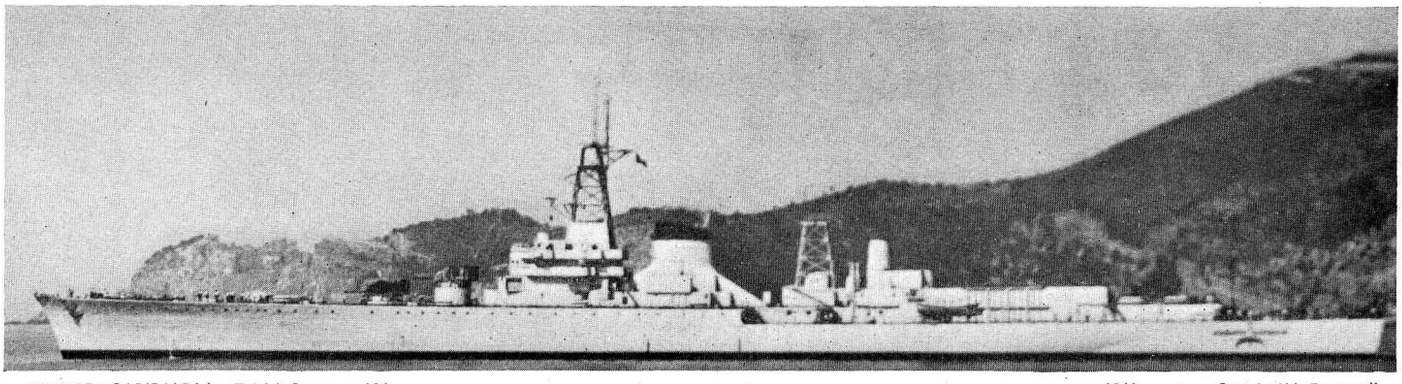
Two new MTBs with a speed of 50 knots are to be built by Vosper Limited, Portsmouth, one of the "Brave" class with three Bristol Siddeley Protens gas turbines, and one of the "Ferocity" class with two main engines.

Page 175.

Medium Landing Ships

VIPER see photograph on next page.

Addenda—*continued*



GIUSEPPE GARIBALDI (on Trials) See page 196. 1960, *courtesy, Captain Aldo Fraccaroli*

INDONESIA

Page 187.

Fast Patrol Boats

Add **HARIMAU** (see photograph below).

IRAN

Page 190.

SHAHBAZ see photograph below.

ITALY

Page 196.

Guided Missile Light Cruiser

GIUSEPPE GARIBALDI on trials on Oct. 1960 (see photograph above).

Page 200.

Frigates

2 Improved "Centauro" Type

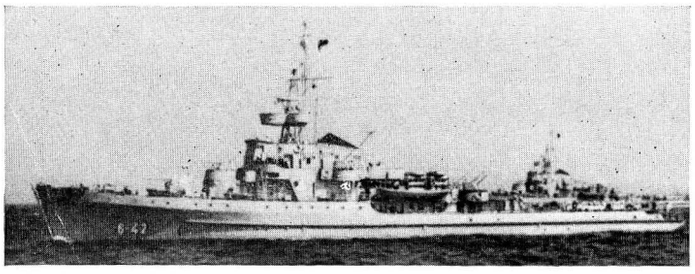
Displacement:	2,400 tons *standard*
Guns:	3—3 inch, 62 cal. (single, fully automatic)
Aircraft:	1 helicopter
Machinery:	Geared turbines. 2 shafts. S.H.P.: 26,000=27 kts.
Boilers:	2

4 "Bergamini" Class

CARLO BERGAMINI, launched on 16 June 1960, and **LUIGI RIZZO** have Fiat motors.



ONAMI (See page 210) 1960, *courtesy, Ishikawajima Heavy Industries, Builders*



6—42 (See page 168) 1960, *Erich Gröner*



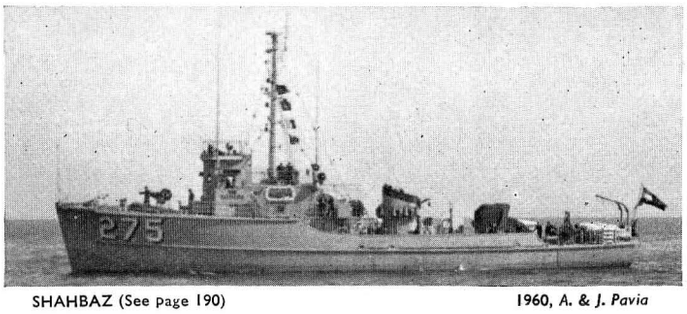
1—61 (See page 168) 1960, *Erich Gröner*



HARIMAU (See page 187) 1960, *Erich Gröner*

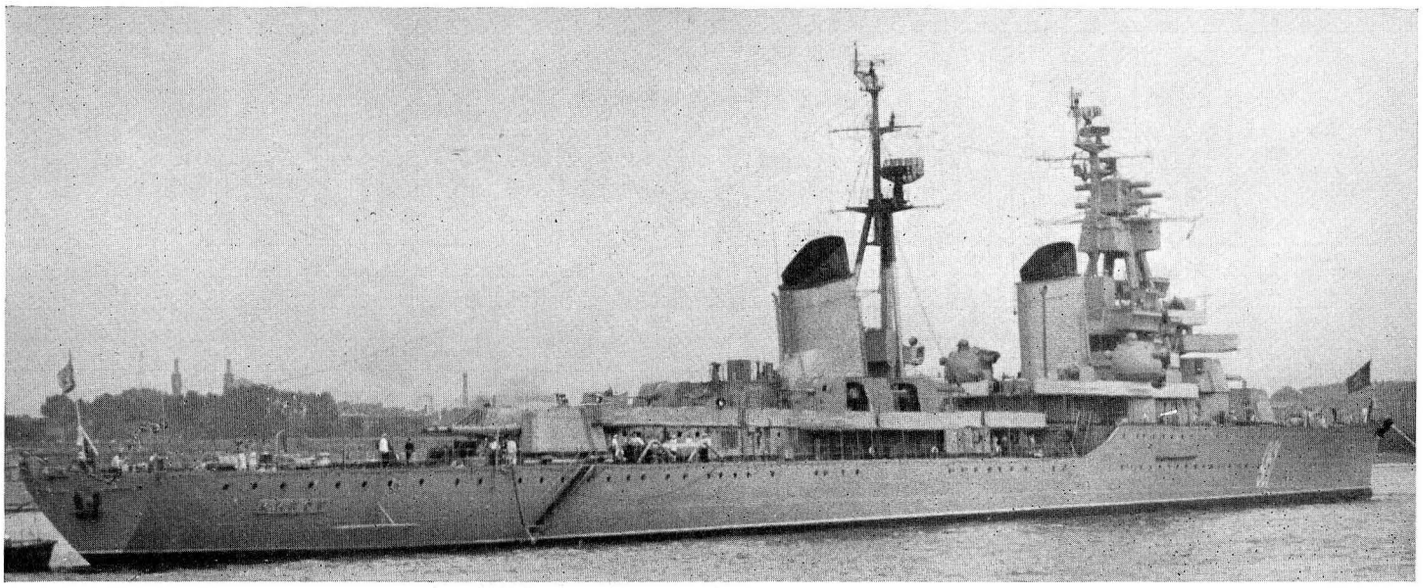


VIPER (See page 175) 1960, *Erich Gröner*



SHAHBAZ (See page 190) 1960, *A. & J. Pavia*

Addenda—*continued*



KIROV (starboard quarter view) See page 403 — 1960

JAPAN

Page 210.

New Construction Programmes

Reported that Japan intends to built an anti-submarine group comprising a helicopter carrier of 10,000 tons displacement carrying 18 helicopters and costing £10,000,000, six escorts, and a fleet replenishment ship.

Destroyers

" Wave " Class

ONAMI completed on 29 Aug. 1960 (see photograph on previous page).

Page 216.

Amphibious Vessels

United States landing ship **HAMILTON COUNTY**, LST 802, purchased for $120,000 at Sasebo, Japan, in 1960.

Submarine Rescue Vessel

CHIHAYA launched in Oct. 1960 at Yokohama, the first vessel of its kind to be built in Japan.

Displacement: 1,340 tons
Speed: 15 kts.

U.S.S.R.

Page 407.

Frigates

A new type of frigate of a modified " 551 " class, but with more anti-aircraft guns, has been observed.

" Riga " class frigate No. 305 reported (see photograph below).

Page 408.

Submarines

It is reported that in future the Soviet Fleet will consist mainly of submarines.

A new type of submarine has been completed (see photograph on page 432).

It is reported that a nuclear powered submarine is on trials.

A new class of submarine is equipped with ballistic missile tubes.

A new class of radio-location submarine is reported to be under construction.

Some submarines are reported to be armed with far-ranging surface rockets.

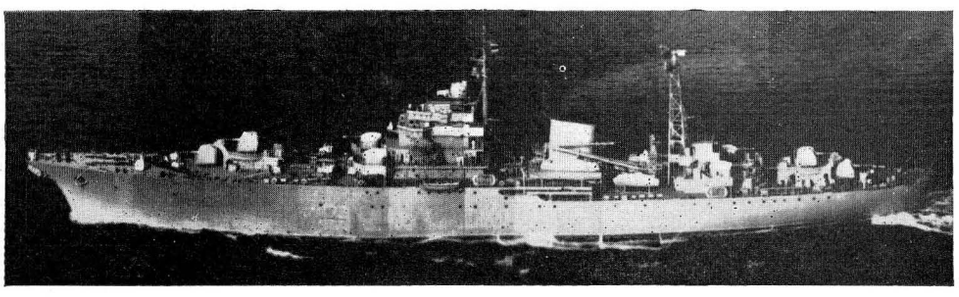
The Soviet Navy is reported to have rockets with atomic and hydrogen warheads.



KIROV (starboard bow view) See page 403 — 1960



SVOBODNYI (with new number) See page 405 — 1960



Modified "551" class. New Soviet frigate (See page 407) — 1960

ALL THE WORLD'S FIGHTING SHIPS

	Heavy Aircraft Carriers	Large Aircraft Carriers	Light Aircraft Carriers	Escort Aircraft Carriers	Battleships	Cruisers	Leaders	Destroyers	Destroyer Escorts and Frigates (and APD)	Nuclear Submarines	Submarines	Corvettes (including PCE)	Patrol Vessels and Submarine Chasers (PC)	Motor Torpedo Boats and Fast Patrol Boats	Fleet and Fast Minelayers and Mine Support Ships	Coastal Minelayers	Seaplane Tenders
GREAT BRITAIN ...		3	6			8		39	85		47			3	3	9	
AUSTRALIA			2					7	14								
CANADA...			1					9	34								
CEYLON									2								
INDIA			1			2		3	12								
NEW ZEALAND... ...						2			8				2				
PAKISTAN						1		6	2								
SOUTH AFRICA... ...								2	3								
ARGENTINA			1			3		8	11		2			8			
BELGIUM...																	
BRAZIL			1			2		13	8		2	10					
BULGARIA								2	4		3			18			
BURMA									1					5			
CHILE						2		6	6		1		3				
CHINA								4	17		24	4	27	125			
COLOMBIA								4	3								
CUBA									4			2	1				
DENMARK									5		3	6	2	17		6	
DOMINICAN R.... ..								2	3			5	6				
ECUADOR									3			2					
EIRE									3								
FINLAND...													3	18		2	
FRANCE			4		1	3	2	18	37		20	9	22				
GERMANY (E.)									4				4	15			
GERMANY (W.)... ..								8	11		3	5	1	50			
GREECE						1		6	8		2		7			2	
INDONESIA								5	4		2	3	9	8			
IRAN									1			1	2				
IRAQ														10			
ISRAEL								2	2		2		1	12			
ITALY						3	2	4	13		6	26	8	23			
JAPAN								18	24		2		38	9		2	
KOREA (N.)											2		4	12			
KOREA (S.)									6			4	9	3			
MEXICO									8			5	10				
NETHERLANDS... ...			1			2		12	11		5	7					
NORWAY								4	7		8			15		6	
PARAGUAY																	
PERU						2			6		4	2					
PHILIPPINES									2			7	7				
POLAND								4	1		9		8	22			
PORTUGAL								4	12		3		14				
ROUMANIA								4	6		10		4			1	
SPAIN						5		14	21		10	6	2	8	6		
SWEDEN...						3		17	6		21		2	37	1	10	
TAIWAN								6	24			3	23	51		2	
THAILAND									5				18			2	
TURKEY								9			10	10				4	
†U.A.R.								4	4		9	2	3	60			
URUGUAY									3				4				
*U.S.A.	9	24	5	20	8	47	13	362	340	17	157	20	103*		16	5	13
‡U.S.S.R.						28	30	150	250	3	450	15	125	500	6	12	
VENEZUELA								3	9								
YUGOSLAVIA								3	4		2		2	65	1	4	

† United Arab Republic (Egypt and Syria)

* Includes Coastguard

‡ Round figures are estimated

TABLE SHOWING THE NUMERICAL STRENGTH OF EACH COUNTRY

Amphibious Force Flagships	*Ocean Minesweepers and Fleet Minesweepers*	*Coastal Minesweepers and Mine Hunters*	*Inshore Minesweepers and Minesweeping Boats*	*River Gunboats*	*Motor Launches and Small Patrol Craft*	*Landing Ships*	*Landing Craft*	*Boom Defence Vessels and Netlayers*	*Survey Ships*	*Depot Ships, Repair Ships and Maintenance Ships*	*Transports*	*Supply Ships*	*Oilers*	*Training Ships*	*Tugs*	*Miscellaneous*	
	11	103	74		31	12	60	66	7	14		24	46		32	74	... GREAT BRITAIN
	4				7			4					1		4	10	... ... AUSTRALIA
		11			3				4	2		4	2		37	44	... .CANADA
	2				7										1	1	... ... CEYLON
		4	5		5	1	2		4				3		1	7	... ... INDIA
	4				14				2						3	6	... NEW ZEALAND
		6	1		4				1			1			2	1	... ... PAKISTAN
	2	10			10			2	2								... ...SOUTH AFRICA
	8					12	9		5	2	7		7	2	11	2	... ... ARGENTINA
	8	26	16		10						2			2	1	8	... ...BELGIUM
		2		8	5				6		4		6	2	15		... ... BRAZIL
	4				5									1			... ... BULGARIA
	1			19	20										1		... ... BURMA
							4			1	4		3	1	6	2	... ... CHILE
	10	23		23	40	25	38	1	2	1	1	5	2	2	2	260	... ... CHINA
				8	20						5		3		13	2	... ... COLOMBIA
					28										1	6	... ... CUBA
		8	14		13				2	2						8	... ... DENMARK
					9	1	2						2	1	7	5	... ...DOMINICAN R.
					6	2					1				1	2	... ... ECUADOR
																3	... ... EIRE
		4	25		14										3	2	... ...FINLAND
	15	84	15		37	10	12	14	3	3	5	20	6	4	25	22	... ... FRANCE
	22	58			90				2					1	7	17	... ... GERMANY (E.)
		24	33		39	6			7	6		2	6	2	11	12	... ...GERMANY (W.)
	5	14			18	17	10	1	2	3	6		7		11	17	... ... GREECE
		22			72	1	5		2		2		3	1	1	5	... ... INDONESIA
		2			24								1		1	2	... ... IRAN
					4										1	2	... ... IRAQ
					6		3			1							... ... ISRAEL
	4	70	20		2		24	2	2		3		2	3	26	70	... ... ITALY
		21	28		28	2	6			2					2	150	... ... JAPAN
		8														70	... ... KOREA (N.)
		13				21	5				1	6	4		2	1	... ... KOREA (S.)
					2									1	2	1	... ... MEXICO
	6	46	16		5		23	1	8	2		2		2	8	14	... ...NETHERLANDS
	4	11					1			2				2		5	... ... NORWAY
				2	9												... ... PARAGUAY
		2		7	8	4					2	2	4		2	2	... ... PERU
		2			34	5	2		1				2		4	5	... ... PHILIPPINES
	12	13			12				3				6	3		2	... ... POLAND
	4	14			10				6				1	1		3	... ... PORTUGAL
	4									1				1		2	... ... ROUMANIA
	13	12		1	17	3		1	3		2		4	2	10	18	... ... SPAIN
	12	18	18		12		9		13	2		1	4	2		12	... ...SWEDEN
	12					37	16		2	2	9		6		6		... ... TAIWAN
	1	3			13	3	8				8		4	1	5	3	... ... THAILAND
	13	16			20			4		2			4	1		5	... ... TURKEY
	6	8			3		19				1					2	... ... U.A.R.
					1				1								... ... URUGUAY
10	157	30	50		114*	137	191	40	15	123	69	175	98	2	223*	205*	... ... U.S.A.
	225	275	300	20	100	14	120	3	50	30	21	3	17	16	32	160	... ... U.S.S.R.
					15						1				2	3	... ... VENEZUELA
		3	25	3	16		7			1	10		4	1	8	23	... ... YUGOSLAVIA

Note.—Figures include vessels in reserve, but not ships under construction